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QUARTERLY REVIEW OF PSYCHIATRY AND NEUROLOGY

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The Methacholine and Cold Pressor Tests as Indicators of Autonomic Reactivity in Mental States

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PHILADELPHIA, PENNSYLVANIA

For many years psychiatrists, physiologists, and pharmacologists have been interested in the relationship of autonomic nervous system functions to psychological disturbances in various mental illnesses. Many data have been accumulated in clinical as well as physiological research that suggest that a concept of autonomic nervous system activity-reactivityl might be most fruitful for studying mental illness.

The usual clinical diagnostic criteria used in psychiatry and based on descriptive symptomatology often give poor correlations with physiological or psychological data. Many test measures applied in psychiatric research today, although revealing a wide range of results, do not distinguish accepted diagnostic groups.

Schizophrenia is considered by many to represent a chronic stress response that has exhausted, to varying degrees, psychological and physiological functions of the organism.[17] This concept could account for the often demonstrated "sluggishness" of the schizophrenic's sympathetic nervous system response to acute stress. Applying Fechner's law of initial values, one might hypothesize that the higher the chronic psychophysiological mobilization

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in the schizophrenic patient, the less his reactivity to superimposed acute stress (i.e., the more sympathetic activity, the less sympathetic reactivity).

Looking for a simple clinical measure that might indicate, at least approximately, the degree of reactivity of the sympathetic nervous system at a given time, and that could be correlated with certain perceptual functions, we chose the methacholine test, which has been widely used in psychiatry[1] and which is reported to measure the responsiveness of the sympathetic nervous system to a hypotensive stimulus, at least in one essential physiological system, the cardiovascular system.

It is recognized that not every person reacts to stress or autonomic excitation most strongly with his cardiovascular system, and the suggestion that a whole pattern of autonomic responses should be studied in order to establish reaction types bears certain merit. On the other hand, it is questionable whether much more information can be gained by such a test battery than can be gained by measuring systolic blood pressure response to stress since this response correlates well with most other measures, which is not surprising since it is physiologically interrelated with changes in the cardiovascular system.

Because of a great deal of controversy in the literature about the usefulness and reliability of the methacholine test,[2–9] we decided to examine its reliability and to compare it with the cold pressor test, about which there is also a great deal of information.[10, 11] The cold pressor test has been used in psychiatric and psychological research as a stress to stimulate the sympathetic system. It was felt that this simple procedure might be an even better indicator of central sympathetic reactivity than the methacholine test, since it is known that the central nervous system, as well as the adrenal medulla, participates in determining the cold pressor response. Experiments have shown that the response to cold pressor stress takes place even after adrenalectomy and in Addison's disease and is not inhibited by interruption of blood flow in the arm. Furthermore, the cold pressor test is easy to administer and, according to Hines,[11] its results are reproducible.

About 10 years ago, Funkenstein et al[12] introduced the methacholine test, as a prognostic tool, to psychiatry. They originally divided into seven groups the systolic blood pressure responses to the injection of 10 mg. of methacholine, out of which eventually three main groups were evolved[13] (see fig. 1): a hyperreactive curve with a short hypotensive effect and a compensatory hypertensive phase (group 1), a normoreactive curve (group 2), and a hyporeactive curve with marked hypotensive phase and no overshoot (group 3).

Prolonged hypotensive effect after injection of methacholine was found to predict a favorable responsiveness of psychotic patients (depressed and schizophrenic patients) to electroshock therapy. It was reported later that a small hypotensive reaction with a marked systolic overshoot seemed to indicate good responsiveness to ataractic therapy. It was reasoned that marked hypotensive reaction was an indicator of low sympathetic reactivity, which could be enhanced by electroshock therapy, whereas a low hypotensive reaction was indicative of increased hypothalamic sympathetic reactivity and therefore could be influenced best by ataraxics, which affect, among other areas in the brain, the diencephalic structures, including the hypothalamus.

Several major theories have been proposed to explain the methacholine reaction. Fun-

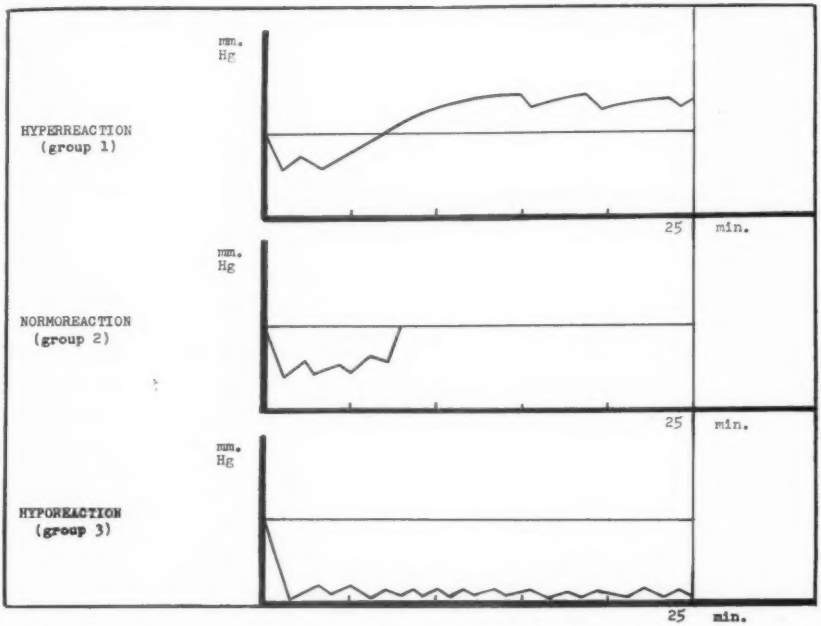

FIG. 1. Main systolic methacholine response curves (10 mg. of methacholine subcutaneously).

kenstein[14] has shown by clinical experiments using patients and normal controls under stress, as well as inferentially from work published by Folkow and von Euler,[15] Hess and Abert,[16] Gellhorn,[17] and others, that a marked hypotensive reaction to methacholine is found in subjects with high plasma adrenaline levels and that a low hypotensive reaction with marked compensatory rise is found in subjects with high plasma noradrenaline levels. Urine excretion was found to parallel plasma levels.

He concluded that the central, probably hypothalamic, sympathetic centers may cause either increased liberation of adrenaline (depression, anxiety, flight) or noradrenaline (anger, paranoid reaction). Funkenstein has further stated that the blood pressure reaction following administration of methacholine varies markedly from textbook descriptions, which indicates again that a patient's reaction to autonomic drugs varies with his emotional state.

Gellhorn[17] interprets the methacholine test as reflecting varying levels of hypothalamic reactivity; he provides a great deal of experimental data to prove his theory. Hoffer[18] disclaims any nicotinic action of methacholine and therefore has used the administration of atropine as a test to measure sympathetic reactivity, hypothesizing that atropine blocks the muscarinic action of acetylcholine but not its nicotinic action. It might be possible, however, that methacholine can exert nicotinic action in a highly reactive sympathetic system and not only, as Gellhorn[17] states, increase hypothalamic reactivity via its hypo-

tensive action, which, by changing the intramural pressures in the baro receptors, diminishes some of their restraining influence on the posterior hypothalamus.

To what degree any specific test, such as the methacholine test, measures predominantly peripheral effector organ reactivity, the state of the central nervous system regulatory mechanisms, or the response of various organs to central nervous system output cannot yet be ascertained. Further studies using various blocking agents promise to be helpful in this direction. In any case, strict separation of the sympathetic from the parasympathetic autonomic nervous system response seems to be impossible.

METHOD

Thirty-seven acute schizophrenic and psychotically depressed inpatients and 14 normal controls participated in the study. Their ages ranged from 20 to 40 years, and the duration of each patient's current psychotic episode was less than one year. All patients had to be cooperative enough to participate in the study, and all were off drugs for at least 48 hours.

All 37 patients were subjected to at least one methacholine test-retest series within 24 hours, and 32 patients also had from one to four cold pressor tests. One cold pressor test-retest series was performed 25 minutes after the injection of methacholine, and another test-retest series on two independent days.

Fourteen normal subjects had two to five cold pressor tests all within one week. Retests were performed at approximately the same hour of the day in order to eliminate any influence of diurnal variations on responsivity.[4] All tests were given in the same room, which was located on the patient floor, and all were administered by the same person. Systolic and diastolic blood pressure and pulse rate were recorded. For the blood pressure reading, a mercury-type sphygmomanometer was used. Results were charted on graph paper. All tests were administered in a standard manner.[10, 12]

After a 25 minute rest period, during which infrequent blood pressure and pulse readings were taken, the mean values of five consecutive systolic blood pressure readings were used to give the systolic base line. Ten mg. of methacholine were then injected subcutaneously into the arm not used for blood pressure reading. Readings were taken every two minutes for 10 minutes, followed by every five minutes for an additional 15 minutes. Cold pressor tests were performed either on independent days, after establishing a base line, or 25 minutes after methacholine injection. The hand of the subject was held in ice water for 60 seconds, and readings were made after 30 and 60 seconds, followed by readings taken at one minute intervals until systolic blood pressure returned to the base line. This usually took from two to four minutes. (Several cold pressor readings could not be evaluated because subjects held their breath when putting their hand in ice water, which increased systolic blood pressure rise.)

In 10 tests an injection of saline preceded the methacholine injection. However, because of only minor and inconsistent influence on systolic blood pressure, saline injections were discontinued after this initial period. Results were analyzed for the following measures (see figure 1): the shape of the systolic blood pressure curve (i.e., hyper-, normo-, and hypo-

reactive curves, according to Gellhorn), area, maximum drop, maximum increase, time from injection to homeostasis, and duration of overshoot. (Time to homeostasis was considered as the interval between injection of methacholine and first return to the base line, and overshoot as the time interval between first and second return to the base line.) A deviation of 2 mm. of mercury above or below the base line was considered as base line response in all measures except the systolic blood pressure curve response (groups 1, 2, 3), where a fluctuation of 4 mm. was considered the base line.

RESULTS AND DISCUSSION

The Reliability of the Methacholine and Cold Pressor Tests. Table I shows correlations achieved in a test-retest methacholine series of psychotic subjects. Using Spearman Rank Order Correlation, one sees that significant correlations exist in most measures. Systolic and diastolic blood pressure drop and pulse increase are the three measures that showed highest test-retest reliability. Correlating several indices of systolic blood pressure in the same methacholine test with each other ($N = 37$), we find that positive correlations between negative area and systolic drop (rho = 0.41, $p = 0.01$), between minus area and homeostasis (rho = 0.44, $p = 0.01$), and between systolic drop and homeostasis (rho = 0.30, $p = 0.05$), as well as negative correlation between homeostasis and overshoot (rho = -0.49, $p = 0.01$), exist.

TABLE I

Test-Retest Reliability of Indices of Blood Pressure and Pulse Changes Produced by Methacholine Injection in 37 Psychotics

Indices of cardiovascular change	Spearman rank order correlation					
	Syst. B.P.		Diast. B.P.		Pulse	
	Rho	p*	Rho	p	Rho	p
Negative area, sq. mm.	0.42	0.01	0.39	0.05	—	—
Positive area, sq. mm.	0.29	0.05	0.19	†	—	—
Positive – negative area, sq. mm.	0.41	0.01	—	—	—	—
Maximum drop, mm.	0.61	0.001	0.59	0.001	0.10	†
Maximum increase, mm.	0.10	†	0.08	†	0.71	0.001
Homeostasis, min.	0.47	0.01	0.47	0.01	0.46	0.01
Overshoot, min.	0.56	0.001	0.29	0.05	0.59	0.001

* One-tailed T test.
† None significant.

TABLE II

*Test-Retest Reliability of Methacholine Systolic Blood Pressure Group Classification, χ^2 Test**

	Criterion A (base line ± 4 mm.)	Criterion B (base line ± 6 mm.)
No change in group	28	31
Change in group	9	6
χ^2 (1 degree of freedom)	9.76	16.89
p†	0.01	0.001

* Gellhorn's hyper-hypo and normoreactive groups.
† One-tailed T test.

TABLE III

Test-Retest Reliability Changes in Blood Pressure Indices Produced by Cold-Pressor Test, Spearman Rank Order Correlation

	Systolic maximum increase, mm.		Systolic area, sq. mm.		Diastolic maximum increase, mm.	
Subjects	Rho	p*	Rho	p	Rho	p
Cold-pressor alone						
Normals (N = 14)	0.96	0.001	0.77	0.001	0.76	0.001
Patients (N = 17)	0.75	0.001	0.70	0.01	0.20	†
Cold-pressor 25 min. post methacholine, patients only (N = 16)	0.81	0.001	0.69	0.01	0.47	†

* One-tailed T test.
† None significant.

Table II shows the degree of reliability achieved in the same test-retest series of psychotics when the systolic response curves are grouped into hypo-, normo-, and hyperreactive groups, as shown in figure 1.

Table III presents the correlation coefficients found in both cold pressor test-retest series. Again systolic blood pressure change as measured in mm. of mercury shows more significant test-retest correlation than area measurement, and diastolic measures are definitely less reliable. Pulse measures give no consistent response.

Our data, then, show that significant test-retest correlations exist for the methacholine and cold pressor tests. Both tests may be used with confidence for differentiating groups of patients, and with some, but less, confidence for measuring change in any specific subject, as even such a high χ^2 as found in the methacholine group test-retest comparison does not alter the fact that 6 out of 37 patients showed a change in curve within 24 hours. However, we may add that all patients fluctuated only between hyper- and normoreactive curve.

TABLE IV

Correlations Between Selected Methacholine and Cold Pressor Test Indices in Psychotic Patients, Spearman Rank Order Correlation

N	Methacholine	vs.	Cold pressor	Rho	p*
20	Maximum systolic drop	vs.	Maximum systolic increase, individual day	−0.54	0.01
32	Maximum systolic drop	vs.	Maximum systolic increase, 25 min. after methacholine	−0.50	0.01
32	Negative systolic area	vs.	Systolic area, 25 min. after methacholine	−0.35	0.05

* One-tailed T test.

Our results confirm the findings of several authors[4, 8, 9] but seem to be in contrast with the results of others.[5–7] However, these authors either used all seven Funkenstein groups for reliability with necessarily poorer results, or added other variables to the test, such as a change in experimenter or bilateral versus unilateral blood pressure readings.

The high reliability found in the cold pressor test-retest series confirms Hines'[11] former reliability studies of this test. We also found that subjects showing a rise of systolic or diastolic blood pressure of more than 20 mm. of mercury in one test showed the same degree of rise in up to four retests, whereas subjects demonstrating low reactivity to the first cold pressor test continued to do so during repeated testing.

Basal blood pressure readings had no significant influence on results in both tests. The mean basal systolic blood pressure of the 37 psychotic patients was 112 mm. of mercury, and of the 14 normal controls 106. In several subjects quite different basal readings in repeat testing were obtained without influencing response. Five of 15 normals and 4 of 21 schizophrenic patients could be considered cold pressor hyperreactors with rise in systolic or diastolic blood pressure of over 20 mm. of mercury. None of the depressed patients showed a hyperreactive response.

Correlations Between the Two Tests. Table IV presents the correlations between selected methacholine and cold pressor measures. Significant inverse correlations exist between decrease of systolic blood pressure in the methacholine test and systolic blood pressure increase in the cold pressor test. Again, area measurements are of lower significance.

If we compare all 25 patients who had a methacholine test and then an independent cold pressor test not more than seven days later, we find that the mean systolic blood pressure rise produced by the cold pressor test is higher ($p = 0.05$)* in patients with a group 1 methacholine curve than in patients with a group 2 methacholine curve. All patients with a systolic blood pressure rise after cold pressor stress of 20 mm. of mercury showed a group 1 methacholine curve.

These data confirm the significant relationship found between the methacholine and cold pressor tests as shown in table IV.

We may therefore conclude that both tests do indeed measure similar functions of the

* Student's one-tailed T test.

autonomic nervous system as expressed in their inversely correlated data. As yet we do not know, however, which of these two measures is the most sensitive one.

Analysis of Data as to Their Support or Lack of Support of Gellhorn's Concept of Autonomic Activity-Reactivity. We hypothesized that the comparison of cold pressor tests run independently with those run 25 minutes after administration of methacholine should demonstrate differences between patients grouped according to their methacholine curve if Gellhorn's[17] theory is correct, the theory being that the methacholine systolic response curve is an indicator of sympathetic hypothalamic reactivity. Methacholine-induced hypotension does often further enhance hypothalamic reactivity in normo- and hyperreactive individuals. In methacholine group 1 patients (low systolic drop with compensatory rise over base line), the cold pressor response should be further enhanced when given 25 minutes after methacholine. In methacholine group 3 patients (strong hypotensive reaction after methacholine) the response should be decreased. A response for the group 2 (normoreactive) patients was harder to predict. However, we expected either light enhancement or no change. We further hoped that the ratio of systolic blood pressure increase over pulse increase might be an indicator of whether subjects were mainly adrenaline or noradrenaline responders in this particular stress situation. Hines[11] felt that cold pressor stress produces mainly vasopressor effect via a neurogenic arc with mobilization of noradrenaline and hardly any change of heart rate and cardiac output. White and Gildea[19] found that tense and anxious subjects had higher initial heart rate than normals, and their heart rate increased more under cold pressor stress than the heart rate of nonanxious subjects. This seems to suggest that anxious people secrete more adrenaline following cold pressor stress, whereas nonanxious persons secrete relatively more noradrenaline.

Nineteen patients had at least one cold pressor test 25 minutes after methacholine and one cold pressor test performed on an independent day not over 24 to 48 hours later. For comparison we arbitrarily chose the first cold pressor test after methacholine and the first independent one (table V).

All 6 schizophrenic patients with a group 1 methacholine curve response showed enhanced cold pressor reaction when the test was administered 25 minutes after administration of methacholine. There were only 3 patients with a group 3 methacholine curve response. Two of them showed a decreased and one an unchanged systolic cold pressor reaction. The cold pressor response of the 10 patients with a group 2 methacholine response (normal reaction) were divided as follows: 3 enhanced, 3 unchanged, and 4 decreased responses. The T test applied to the differences in enhancement between groups 1 and 2 of methacholine patients gave a p value of better than 0.005.

The ratio of systolic blood pressure increase over pulse increase, which we hoped would differentiate persons who react to cold pressor stress with relatively more adrenaline or noradrenaline output did not give clear-cut results. However, the ratio in our schizophrenic subjects was a little larger than in our normal controls. It is possible that this is an indication that the patients tended to produce more noradrenaline than the normal subjects under cold pressor stress.

We may therefore say that the data support our hypothesis for the hyperreactive and

probably also hyporeactive methacholine groups. The normal reactive (group 2) patients showed only minor and inconsistent change and not, as we had hoped, a generalized enhanced response. Sloane et al[20] found no enhanced corticosteroid excretion in the urine four hours after injection of methacholine. They considered this to be an indication that metha-

TABLE V

The Three Main Methacholine Groups Compared with Cold Pressor Systolic Blood Pressure Responses

Methacholine groups	Number of patients	Cold pressor* in mm. Hg		Differences† in mm. Hg, A − B
		A, independent	B, after methacholine	
1. Hyperreactive subjects	1	16	18	+2
	2	8	10	+2
	3	12	16	+4
	4	12	16	+4
	5	8	12	+4
	6	7	11	+4
	7	30		
	8	6		
	9	28		
Mean		14.11		+3.33
2. Normoreactive subjects	1	8	4	−4
	2	10	8	−2
	3	8	6	−2
	4	12	10	−2
	5	8	8	0
	6	8	8	0
	7	16	16	0
	8	6	7	+1
	9	6	8	+2
	10	10	13	+3
	11	18		
	12	8		
	13	12		
Mean		9.23		−0.4
3. Hyporeactive subjects	1	10	4	−6
	2	16	10	−6
	3	8	8	0
Mean				−4.0

$25N$ = independent cold pressor.
$19N$ = differences between independent cold pressor and cold pressor 25 minutes after methacholine.
* $t = 1.768$, p (one-tailed) $= 0.05$, in T test for cold pressor responses (methacholine group 1 vs. group 2).
† $t = 3.998$, $p = 0.005$, in T test for cold pressor differences (methacholine group 1 vs. group 2).

choline injection did not activate sympathetic hypothalamic centers. We feel that their results could also be interpreted another way. It might well be possible that the enhancement by methacholine of central sympathetic reactivity lasts only a short time and is apparently not strong enough to activate the adrenal cortex. Besides, most subjects in Sloane's study might well have had a normal or hypotensive methacholine curve, and our study seems to show that no enhancement takes place in these two groups.

Our findings seem to indicate that only a reactive autonomic nervous system can be stimulated by methacholine to become even more reactive. It may be that normals with the same type of curve show increased reactivity after a tuning with methacholine, whereas schizophrenic patients with the same curve are less susceptible to such a tuning effect. A less than 25 minute time interval between the injection of methacholine and the cold pressor test might also increase differences between groups. This again would confirm statements made by many authors that the so-called normoreactive curve produced by methacholine injection in patients does not represent normal homeostasis but a so-called "unhealthy homeostasis." Despite a normal curve, schizophrenics seem to be less reactive to stimulation of the sympathetic nervous system than nonschizophrenic subjects.

SUMMARY

Thirty-seven psychotic inpatients were subjected to a methacholine test-retest comparison. Thirty-two of them also had one to four cold pressor tests performed within one week. In 14 normal controls two to five cold pressor tests were performed at daily intervals.

Findings may be summarized as follows: Good test-retest reliability was found for the methacholine test in psychotic patients and for the cold pressor test in psychotic subjects and normal controls. Various indices were derived, and the best correlations were found with those based on systolic blood pressure data. There is a significant inverse relationship between the blood pressure responses to methacholine and cold pressor stresses. Furthermore, patients with a short hypotensive methacholine curve followed by marked compensatory rise above base line level had higher cold pressor response than patients with a normoreactive methacholine curve. The cold pressor response is enhanced by a prior injection of methacholine in patients with high sympathetic reactivity but not in patients with a normal or low sympathetic reactivity.

These results suggest confirmation of Gellhorn's theory of the enhancement of sympathetic response in subjects with high sympathetic reactivity by the injection of methacholine.

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RESUMEN

Treinta y siete pacientes hospitalizados fueron sometidos a una prueba y contraprueba comparativa con metacolina. En 32 de ellos se practicaron también de 1 a 4 pruebas criopresoras dentro de una semana. En 14 individuos testigos normales se practicaron de

2 a 5 pruebas criopresoras a intervalos de un día. Los resultados pueden resumirse como sigue: Se halló que las pruebas y contrapruebas con la metacolina eran dignas de confianza en los pacientes psicóticos, como también las pruebas criopresoras en los enfermos psicóticos y en los testigos normales. Se pudieron obtener diversos índices. Por otra parte, se halló que la mejor correlación entre estas pruebas era aquélla que se basaba en la presión sistólica. Existe una relación inversa evidente entre la respuesta de la presión sanguínea a la metacolina y la ocasionada por el stress derivado de la variación de la presión por acción del frío. Además, los pacientes que presentaban una curva de hipotensión de corta duración consecutiva a la metacolina reaccionaban con una marcada elevación tensional compensatoria por encima de la línea básica, y experimentaban una respuesta criopresora más elevada que los pacientes que tenían curvas metacolínicas normorreactivas. La respuesta criopresora se refuerza con una inyección previa de metacolina en los pacientes con una elevada reactividad simpática, pero no en los enfermos con reactividad simpática normal o descendida. Los resultados sugieren la confirmación de la teoría de Gellhorn sobre el reforzamiento de la respuesta simpática en individuos con una elevada reactividad simpática consecutiva a la inyección de metacolina.

RESUME

Trente-sept psychopathes hospitalisés ont été soumis à une épreuve de comparaison, dite "test-retest," à la méthacholine. Trente-deux d'entre eux ont également été soumis, de une à quatre fois dans l'espace d'une semaine, à l'épreuve au froid de Hines et Brown. Cette dernière épreuve a été administrée de deux à cinq fois à intervalles journaliers à 14 sujets témoins normaux. Les résultats peuvent se résumer comme suit: Le coefficient de confiance de Spearman, déterminé par la corrélation des résultats de l'épreuve répétée ("test-retest"), s'est révélé satisfaisant dans l'épreuve à la méthacholine chez les psychopathes et dans l'épreuve au froid chez les psychopathes et chez les sujets témoins normaux. On a pu en tirer divers indices, dont ceux qui étaient fondés sur les valeurs de tension artérielle systolique présentaient la meilleure corrélation. Il existe un rapport inversement proportionnel significatif entre les réponses de la tension artérielle aux "stress" provoqués par la méthacholine et par l'épreuve au froid. En outre, les sujets chez qui la méthacholine provoquait une courbe hypotensive courte suivie d'une élévation compensatrice accentuée au-dessus de la ligne de base manifestaient une réponse plus élevée dans l'épreuve au froid que les sujets chez qui la méthacholine provoquait une courbe de réaction normale. Chez les sujets manifestant une réactivité sympathique élevée, la réponse dans l'épreuve au froid est augmentée par l'injection préalable du méthacholine, ce qui n'est pas le cas chez les sujets à réaction sympathique normale ou basse. Ces résultats semblent confirmer la théorie de Gellhorn selon laquelle l'injection de méthacholine augmente la réponse sympathique chez les sujets manifestant une réactivité sympathique élevée.

REFERENCES

1. Feinberg, I.: Current status of the Funkenstein test, A.M.A. Arch. Neurol. & Psychiat. *80*:488, 1958.
2. Funkenstein, D. H.; Greenblatt, M., and Solomon, H.: Nor-epinephrine-like and epinephrine-like substances in psychotic and psychoneurotic patients, Am. J. Psychiat. *108*:652, 1952.

3. Alexander, L.: Epinephrine-Mecholyl test (Funkenstein test), A.M.A. Arch. Neurol. & Psychiat. 73:496, 1955.
4. Weckowicz, T. E.: Reliability of Mecholyl test, A.M.A. Arch. Neurol. & Psychiat. 76:109, 1956.
5. Grosz, H. J., and Miller, I.: Two factors limiting the reliability of the Mecholyl test: Variability in day to day responses and dissimilarity between simultaneous bilateral determinations, J. Nerv. & Ment. Dis. 127:417, 1958.
6. Brill, N. Q.; Richards, R. A., and Berger, L. M.: Constancy of the Funkenstein test, A.M.A. Arch. Neurol. & Psychiat. 79:716, 1958.
7. Maas, J. W.: Reliability of the methacholine (Mecholyl) test, A.M.A. Arch. Neurol. & Psychiat. 79: 585, 1958.
8. Lotsof, E. J., and Yobst, J.: The reliability of the Mecholyl test, Psychosom. Med. 19:370, 1957.
9. Sloane, R. B.; Lewis, D. J., and Slater, P.: Reliability of epinephrine-methacholine (Mecholyl) testing, A.M.A. Arch. Neurol. & Psychiat. 78:294, 1957.
10. Hines, E. A., and Brown, G. F.: A standard stimulus for measuring vasomotor reactions, Proc. Staff Meet., Mayo Clin. 7:332, 1932.
11. Hines, E. A.: The cold pressor test for measuring the reactibility of the blood pressure: Data concerning 571 normal and hypertensive subjects, Am. Heart J. 11:1, 1936.
12. Funkenstein, D. H.; Greenblatt, M., and Solomon, H. C.: Autonomic nervous system changes following electric shock treatment, J. Nerv. & Ment. Dis. 108:409, 1948.
13. Nelson, R., and Gellhorn, E.: The action of autonomic drugs on normal persons and neuro-psychiatric patients, Psychosom. Med. 19:486, 1957.
14. Funkenstein, D. H.: Nor-epinephrine-like and epinephrine-like substances in relation to human behavior, J. Nerv. & Ment. Dis. 124:58, 1956.
15. Folkow, B., and von Euler, U. S.: Selective activation of nor-adrenalin and adrenalin producing cells in the cat's adrenal gland by hypothalamic stimulation, Circulation Res. 2:191, 1954.
16. Hess, W. R., and Albert, K.: Experimental data on role of hypothalamus in mechanism of emotional behavior, A.M.A. Arch. Neurol. & Psychiat. 73:127, 1955.
17. Gellhorn, E.: Autonomic imbalance and the hypothalamus, Minneapolis, Minn., University of Minnesota Press, 1957.
18. Hoffer, A.: Effect of atropine on blood pressure of patients with mental and emotional disease, A.M.A. Arch. Neurol. & Psychiat. 71:80, 1954.
19. White, B. V., and Gildea, E. P.: Cold pressor in tension and anxiety, A.M.A. Arch. Neurol. & Psychiat. 38:964, 1937.
20. Sloane, E. B.; Saffran, M., and Cleghorn, R. A.: Autonomic and adrenal responsivity in psychiatric patients, A.M.A. Arch. Neurol. & Psychiat. 79:549, 1958.

Calendar of Meetings of Psychiatric Interest Published

The American Psychiatric Association has published its second edition of *Calendar of Meetings of Psychiatric Interest.* The meetings listed are those scheduled from October 1, 1959, through May, 1965, and are of psychiatric or neuropsychiatric interest. Items for this yearly calendar should be sent to Dr. Mathew Ross, Medical Director of the A. P. A., 1700 18th Street N. W., Washington 9, D. C.

Reduction of Cardiovascular Stress During Electroshock Therapy by Trimethaphan

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PHILADELPHIA, PENNSYLVANIA

Electroshock therapy causes severe hypertension[1–5] probably due primarily to central stimulation of the autonomic nervous system[1, 2] and aggravated by the muscular tremors, causing an increase in intrathoracic pressure.[3, 5] Most deaths following electroshock therapy are a result of circulatory complications, such as myocardial infarction, rupture of blood vessels, or shock.[6] It would be desirable in some patients to decrease the hypertension associated with this treatment. Reduction of hypertension during electroshock therapy may be accomplished by intravenous barbiturates[4, 7, 8] or peripheral blockade of the autonomic ganglia.[2, 6, 9, 10] Although thiopental has been shown to reduce hypertension during electroshock, large doses were necessary and complications, such as prolonged apnea and unconsciousness, frequently occurred.[8] A short-acting agent with fewer side effects would be more useful.

Trimethaphan§ is a potent vasodilator[11–13] causing hypotension by autonomic ganglion blockade[11] and direct vascular depression.[12] It has a short duration of action,[13, 14] which suggests its use for electroshock therapy.[6] However, complications following acute vasomotor depression have been reported.[15] We have evaluated trimethaphan for the treatment of hypertension associated with electroshock therapy.

Twenty healthy male patients receiving electroshock therapy for various emotional disturbances were studied three times at intervals of one day. Intravenous medication before therapy consisted of: (1) 20 mg. of succinyldicholine, (2) 10 mg. of trimethaphan and 20 mg. of succinyldicholine, (3) 250 mg. of thiopental, 10 mg. of trimethaphan and 20 mg. of succinyldicholine. The studies were done in random order. Trimethaphan and thiopental were administered as unknowns with saline controls. Approximately 30 seconds after the rapid injection of the drugs, the patients were treated with a Reiter electrostimulator transcranially. Artificial ventilation with oxygen by bag and mask was performed throughout the studies. Blood pressure was measured with a cuff and aneroid manometer before the injection of the premedication, before electroshock, and six times a minute during recovery. Evaluation of significance in the maximum blood pressure rise after electroshock following

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§ The trade name of Roche Laboratories for trimethaphan camphor-sulfonate is Arfonad.

different medications was done with the *t* test. The duration of apnea was timed with a stop watch.

RESULTS

Following succinyldicholine premedication, electroshock therapy caused an average maximum rise of 72 mm. of mercury in systolic and 32 mm. of mercury in diastolic blood pressure (table I). After trimethaphan and succinyldicholine, electroshock resulted in an average maximum increase of 37 mm. and 18 mm. of mercury, which is significantly less ($P < 0.01$) than when succinyldicholine was the sole premedication. When thiopental was included with the medication there was a further decrease in the maximum blood pressure

TABLE I

Blood Pressure Changes After Electroshock Therapy with Different Pretreatment Medications

	Succinylcholine alone			Trimethaphan-succinylcholine			Thiopental-trimethaphan-succinylcholine		
	Control	Maximum	Change	Control	Maximum	Change	Control	Maximum	Change
Pt.									
1	120/70	180/100	60/30	120/76	180/90	60/15	130/80	140/100	10/20
2	140/80	220/90	80/10	140/80	190/100	50/20	160/80	160/90	0/10
3	160/90	230/100	70/10	140/70	160/90	20/20	130/70	170/80	40/10
4	140/84	220/120	80/35	130/80	160/100	30/20	150/80	170/100	20/20
5	180/100	270/120	90/20	160/100	130/80	−30/−20	140/90	150/100	10/10
6	180/80	240/120	60/40	180/90	220/110	40/20	200/90	220/90	20/0
7	140/70	220/100	80/30	160/80	210/120	50/40	140/80	160/100	20/20
8	120/60	160/100	40/40	120/70	180/100	60/30	120/70	130/90	10/20
9	200/90	260/120	60/30	180/80	260/120	80/40	200/80	260/100	60/20
10	150/90	220/120	70/30	150/90	150/100	00/10	170/90	170/80	0/−10
11	170/80	220/110	50/30	180/80	220/90	40/10	190/90	200/100	10/10
12	130/70	200/100	70/30	120/70	130/80	10/10	120/70	140/85	20/15
13	120/60	180/100	60/40	130/80	220/100	90/20	130/80	160/100	30/20
14	170/80	190/120	20/40	120/70	140/70	20/0	110/70	130/90	20/20
15	160/80	210/140	50/60	160/80	180/80	20/0	160/80	170/90	10/10
16	150/80	230/100	80/20	140/70	160/80	20/10	190/90	220/90	30/0
17	150/90	240/120	90/30	150/90	220/120	70/30	160/80	210/110	50/30
18	140/80	220/120	80/40	120/60	110/60	−10/0	140/80	180/100	40/20
19	110/80	200/110	90/30	130/80	130/90	00/10	140/80	120/70	−20/−10
20	110/80	260/130	150/50	120/60	240/120	120/60	120/80	140/100	20/20
Mean	147/80	219/112	72/32	143/78	180/95	37/18	150/81	170/93	20/13
*S. D.**	25/10	28/13	26/12	21/10	42/17	37/17	28/7	36/9	18/11

*S. D. = Standard deviation.

TABLE II

Duration of Apnea After Electroshock Therapy with Different Pretreatment Medications

	Succinylcholine	Trimethaphan-succinylcholine	Thiopental-trimethaphan-succinylcholine
Number of patients	20	20	20
Mean duration of apnea (seconds)	127	182	233
Standard deviation	31	101	141

changes ($P < 0.01$). The variation (standard deviation, table I) from the mean change in blood pressure was greater when trimethaphan was added to succinyldicholine before elecl troshock than when succinyldicholine was used alone ($F = 2.25$, $P < 0.05$). Thiopenta- improved the predictability of response from patient to patient ($P < 0.05$).

The duration of apnea (table II) after succinyldicholine medication and electroshock was an average of 127 seconds, significantly less than when trimethaphan was included before shock (182 seconds, $P < 0.05$). No significant increase ($P > 0.1$) in the duration of apnea was found by addition of thiopental to trimethaphan and succinyldicholine. There was considerable variation in the duration of apnea from patient to patient, but individual patients seemed to have a rather constant response.

DISCUSSION

Trimethaphan may modify the circulatory response to electroshock therapy by ganglionic blockade[11] and/or by direct depressant effect upon the blood vessels,[12] either of which could reduce the effects of sympathetic nervous stimulation. The variability of action of trimethaphan has been reported by McCubbin and Page[12] in dogs; this would seem to apply also in man. However, Paton and Zaimis[16] note several factors other than the pharmacologic effect of a vasodepressing drug that would influence the degree of hypotension, such as the background tone of the autonomic system and blood vessels, the sensitivity of individual ganglia, the difficulty in obtaining complete chemical blockade, the effectiveness of local hormones on the vessels, and the position of the patient. It would seem impossible to predict the response of any particular patient to trimethaphan and electroshock therapy. We have found that 0.1 mg. of trimethaphan per Kg. of body weight will modify the period of hypertension in most patients. Subsequently, we have adjusted the dose according to the degree of hypertension. In this manner, fairly consistent results may be achieved.[14] Thiopental, perhaps by decreasing the emotional tension of the patients, reduces the variation in the blood pressure response due to this factor.

In our group of patients, none were hypotensive after electroshock but most were sensitive to increases in airway pressure during the period of apnea, demonstrating a sharp drop in blood pressure if ventilation were too vigorous. The recovery phase during a Valsalva maneuver is inhibited by trimethaphan[13] and thiopental.[17]

Trimethaphan blocks parasympathetic stimulation during electroshock.[6] Randall et al[11] showed that hypotension caused by vagus nerve stimulation in cats was blocked by trimethaphan. Parasympathetic block probably also occurs in man after trimethaphan.[13, 14] Atropine premedication before electroshock would appear to be unnecessary for this purpose.

Possible hazards of pretreatment with thiopental, trimethaphan, and succinyldicholine should be mentioned. These drugs may cause marked hypotension. If, for some reason, there is a delay in starting the electrical stimulation, hypotension should be expected. Blood pressure must be carefully observed until the patient begins breathing spontaneously. Care must be taken in moving the patients, since they may be susceptible to postural hypotension during the early phase of recovery.[16] All patients need artificial support of respiration. Tewfik has shown that trimethaphan depresses plasma levels of cholinesterase.[18] As cholinesterase is necessary for the enzymatic hydrolysis of succinyldicholine, this would explain the prolonged apnea after succinyldicholine and trimethaphan premedication. In a preliminary trial with trimethaphan we noted no prolongation in the period of unconsciousness following electroshock. This seems to offer a considerable advantage over the large doses of thiopental[8] necessary to reduce hypertension.

These drugs are potent; someone skilled in resuscitation of the hypotensive, apneic patient must assist with the treatment. With proper care, thiopental, trimethaphan, and succinyldicholine premedication appears to be ideal for the modification of psychic, circulatory, and physical trauma associated with electroshock therapy.

SUMMARY

Twenty patients were studied during electroshock therapy with intravenous combinations of trimethaphan, thiopental, and succinyldicholine for premedication. The authors have shown that hypertension associated with electroshock may be effectively reduced by prior administration of thiopental and trimethaphan. The hazards of hypotension and prolonged respiratory depression were discussed. Trimethaphan seems to be an ideal drug in the management of the hypertensive crisis during electroshock therapy.

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We would like to thank Lieutenant Commander Elsie L. Werner, Nurse Corps, U. S. Navy, and Hospitalman Third Class Norris McMahan, U. S. Navy, for their excellent help.

RESUMEN

Se estudiaron 20 pacientes durante el tratamiento con electroshock con combinaciones intravenosas de trimetafan, tiopental y succinildicolina como premedicación. Los autores han observado que la hipertensión asociada con el electroshock puede reducirse en forma efectiva administrando con anterioridad tiopental y tremetafan. Se discuten en este trabajo los riesgos de la hipotensión y de la depresión respiratoria prolongada. El trimetafan parece ser una droga ideal en el tratamiento de la crisis hipertensiva durante la terapia con electroshock.

RESUME

Vingt sujets, auxquels avaient été administrées au préalable diverses associations de trimethaphan, de thiopental et de succinyldicholine par la voie intraveineuse, ont été étudiés au cours du traitement par l'électrochoc. Les auteurs ont démontré que l'hypertension provoquée par l'électrochoc peut être effectivement réduite par l'administration préalable de thiopental et de trimethaphan. Les dangers de l'hypotension et d'une dépression respiratoire prolongée ont été discutés. Le trimethaphan semble être le médicament idéal pour maîtriser la crise d'hypertension au cours du traitement par l'électrochoc.

REFERENCES

1. Brown, M. L.; Brown, G. W., and Hines, H. M.: Changes in blood flow, blood pressure and cardiac rate associated with electroconvulsive shock, Am. J. Psychiat. *109*:27, 1952.
2. Colville, K. I.; Ellis, C. H.; Siversten, L. M.; Gahagan, L. H., and de Beer, E. J.: Mechanisms involved in the cardiovascular response to transcranial stimulation, A.M.A. Arch. Neurol. & Psychiat. *80*:374, 1958.
3. Gordh, T.; Silfverskiold, B. P., and Amark, C.: Disturbance of circulation in convulsions of the epileptic type, I & II, Acta Med. Scandinav. *113*:183, 1943.
4. Nowill, W. K.; Wilson, W., and Borders, R.: Succinylcholine chloride in electroshock therapy. II. Cardiovascular reactions, A.M.A. Arch. Neurol. & Psychiat. *71*:189, 1954.
5. Holmberg, G.; Thesleff, S.; von Dardel, O.; Hard, G.; Ramquist, N., and Pettersson, H.: Circulatory conditions in electroshock therapy with and without a muscle relaxant, A.M.A. Arch. Neurol. & Psychiat. *72*:73, 1954.
6. Tewfik, G. I., and Wells, B. G.: The use of Arfonad for the alleviation of cardiovascular stress following electro-convulsive therapy, J. Ment. Sc. *103*:636, 1957.
7. Hoff, E. C.: Activation of cerebral autonomic integration mechanisms in relation to the therapeutic process in electroshock, Confinia neurol. (suppl.) *14*:306, 1954.
8. Egbert, L. D.; Dumas, P. A.; Ginter, G. C., and Eckenhoff, J. E.: Modification of the circulatory response to electroshock therapy by thiopental, Anesthesiology *20*:309, 1959.
9. Davies, G., and Paterson, A. S.: The use of "Etamon" for high blood pressure in electrocerebral treatment, J. Ment. Sc. *98*:306, 1952.
10. Richardson, D. J.; Lewis, W. H.; Gahagan, H., and Sheehan, D.: Etiology and treatment of cardiac arrhythmias under anesthesia for electroconvulsive therapy, New York State J. Med. *57*:881, March, 1957.
11. Randall, L. O.; Peterson, W. G., and Lehmann, G.: The ganglionic blocking action of thiophanium derivatives, J. Pharmacol. & Exper. Therap. *97*:48, 1949.
12. McCubbin, J. W., and Page, I. H.: Nature of the hypotensive action of a thiophanium derivative (RO 2-2222) in dogs, J. Pharmacol. & Exper. Therap. *105*:437, 1952.
13. Assali, N. S.; Douglass, R. A., and Suyemoto, R.: Observations on the hemodynamic properties of a thiophanium derivative, RO 2-2222 (Arfonad), in human subjects, Circulation *8*:62, 1953.
14. Sarnoff, S. J.; Goodale, W. T., and Sarnoff, L. C.: Graded reduction of arterial pressure in man by means of a thiophanium derivative (RO 2-2222). Preliminary observations on its effect in acute pulmonary edema, Circulation *6*:63, 1952.
15. Little, D. M.: 'Controlled Hypotension' in Anesthesia and Surgery, Springfield, Ill., Charles C Thomas, 1956.
16. Paton, W. D. M., and Zaimis, E. J.: The methonium compounds, Pharmacol. Rev. *4*:219, 1952.
17. Price, H. L.; Conner, E. H.; Elder, J. D., and Dripps, R. D.: Effect of sodium thiopental on circulatory response to positive pressure inflation of the lung, J. Appl. Physiol. *4*:629, 1952.
18. Tewfik, G. I.: Trimetaphan: Its effect on the pseudo-cholinesterase level in man, Anaesth. *12*:326, 1957.

The Management of Depression in Alcoholism and Drug Addiction

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In spite of the great advances made in recent years in the medical treatment of alcoholism, much work will still have to be done before we can feel satisfied that the victims of this disorder are receiving optimum care. As knowledge of the psychologic and sociologic aspects of alcoholism increases, the long-term care of the chronic alcoholic improves in proportion. The acute attack, however, is so dramatic and disturbing an upheaval that treatment may be directed only toward the most obvious symptom, the violence and hyperactivity.

There are other problems to be considered. The withdrawal period represents the subacute stage in the rehabilitation of the patient addicted to alcohol, or to drugs as well. It confronts the physician with three main tasks: (1) To cope with the restlessness and tension of the patient; (2) to combat the concurrent psychologic and physiologic depression; and (3) to correct the lack of vitamins and minerals resulting from the almost complete cessation of food intake during the drinking bout.

The most urgent problem is the restlessness and tension of the patient as he comes face to face not only with physical symptoms, the peripheral and visceral pain of the withdrawal syndrome, but also the psychologic conflicts of returning awareness. The sedation of the patient in the acute and subacute stage can be handled quite adequately by suitable ataraxics such as promazine, meprobamate, or *Rauwolfia* preparations, thus making any resort to paraldehyde, chloral hydrate, and barbiturates entirely superfluous. The desired calming effect can also be attained indirectly with the aid of corticosteroids or other agents intended to lessen the violence of withdrawal. Once the hyperactivity is brought under control, however, there is some danger that the two remaining problems, depression and malnutrition, may be overlooked.

Depression is an important underlying trait in the psychological make-up of many alcoholics, and in addition a reactive type of depression tends to accompany the rebound from the heights of manic activity of the drinking bout. Quantitative studies have shown that a synergism exists between alcohol and barbiturates that is potentiative rather than additive in type,[5] and that there exists at least a partial equivalence between chronic alcohol and barbiturate intoxications.[2] This clinical and laboratory similarity has led to suggestions that stimulants such as caffeine or amphetamine be employed, but only in cases where depression is very severe.[1, 5] Little consideration has been given to the possibility of using central nervous system stimulants on a wider scale, without waiting for severe depression to become manifest.

In order to deal with this problem more effectively, a new combination of ingredients

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intended to relieve the symptom complex of depression, anorexia, fatigue, and malnutrition was subjected to evaluation. This preparation* contains: D-Amphetamine sulfate, 3.0 mg.; pentylenetetrazol, 130.0 mg.; nicotinic acid, 50.0 mg.; thiamine hydrochloride, 5.0 mg.; riboflavin, 2.0 mg.; and ascorbic acid, 37.5 mg.

The preparation represents a combination of three cerebral stimulants of dissimilar structure, aimed at reducing the incidence of side effects, and of three vitamins essential to the metabolism of the higher nervous centers. Each of the three stimulants, D-amphetamine sulfate, pentylenetetrazol, and nicotinic acid, follows a different mechanism in promoting cerebral activity. Amphetamine tends to be particularly active in stimulating the cortex and the medullary respiratory center, lessening the degree of central depression caused by narcotic or hypnotic agents. The analeptic action of pentylenetetrazol is more complex and apparently occurs at all levels of the cerebrospinal axis. Nicotinic acid, on the other hand, acts primarily as a peripheral vasodilator, as characterized in man by warmth and reddening of the blush area; the stimulant effect appears to be proportional to the amount of flushing, although conclusive evidence of cerebral vasodilation has not been obtained.

METHODS AND RESULTS

The patient material consisted of 100 patients who were seen at the Washingtonian Hospital with diagnoses of chronic alcoholism, drug addiction, or (in 3 cases) mild depressive reaction without addiction. Ninety of the patients were chronic alcoholics recovering from an acute episode; in 2 patients, chronic alcoholism was complicated by addiction to barbiturates; in 1 patient, chronic alcoholism was complicated by cerebral arteriosclerosis; 1 patient was an alcoholic in remission suffering from a mild involutional depression; 3 patients were heroin addicts, and 3 were depressed nonaddicts. Of these 100 patients, 87 were hospitalized and 13 were observed as outpatients. Selection of these patients was made from consecutive patients seen at the hospital on the basis of their needing no concurrent medication, so that the efficacy, or lack of it, of this new capsule would not be masked by simultaneously administered active therapeutic agents.

The evaluation was performed on the basis of a double-blind study. A placebo capsule identical in appearance with the active preparation was prepared and coded in such a way that neither the patients nor the participating physicians could distinguish between the two before the end of the entire study. The two preparations were administered on a random basis but in such a way that at the end of the study there were 50 treated patients and 50 controls. In a few cases, attempts were made to obtain subjective descriptions from the patients of the difference in activity between active drug and placebo by interspersing the main course of treatment with short periods of a preparation with a different code.

The initial dosage consisted of one capsule twice daily, at breakfast time and in the early afternoon. It was raised to one capsule three times daily if no significant effect was noted, and reduced to one every morning in 6 patients who reported rapid improvement early in

* The trade name of the G. F. Harvey Co. for this preparation is Dexazyme.

TABLE I

Comparison of Results in Patients Treated with Active Preparation or with Placebo

Primary diagnosis	Dexazyme			Placebo		
	Better	Unchanged	Worse	Better	Unchanged	Worse
Chronic alcoholism	37	8	0	15	31	3
Mild depressive reaction	1	1	0	0	1	0
Addiction to heroin	0	3	0	0	0	0
Total	38	12	0	15	32	3

the course of treatment. The period of observation varied, depending on the circumstances of each individual patient, from seven days to nine months.

The progress of each patient was recorded at each visit. Apart from the drug under study, the management of these patients consisted of psychotherapy. At the end of each course of treatment, the psychiatric and other observational material was reviewed and a decision made as to whether the patient had been improved, had become worse, or remained unchanged. No effort was made to separate improvement due to psychotherapy, to stimulant medication, or to the placebo effect. Only following this decision was the preparation decoded and the results ascribed to the treated or the control group.

Of 50 patients who received placebo medication, 15 were improved, 3 felt worse, and the remaining 32 experienced no change. Of the 50 patients treated wtih the active preparation, 38 were improved, while 12 experienced no significant improvement. No treated patient became worse. Detailed results are given in table I.

The patients improved on the active preparation showed much greater gain than those on the placebo. They reacted with restoration and elevation of mood, relief from fatigue, greater feeling of well-being and increased capacity for sustained work.

Four of the treated patients experienced mild untoward effects. These consisted of feelings of uncomfortable warmth and flushing of the skin, especially of the face, and sometimes of nervousness. A case history may illustrate both the desired and the side effects.

CASE HISTORY

Mr. B. is a 50 year old salesman, stocky in appearance, outgoing, and aggressive. This is but a thin outer veneer, for early in the interview he describes himself as shy, withdrawn, at times depressed. A prolonged bout of heavy drinking brought him to the hospital for a two week period of hospitalization. The first 10 days in the hospital required the use of sedation to deal with the acute phase and the beginning of the withdrawal stage. During his last few days in the hospital, he received capsule 571 in order to cope with his state of mild depression and apprehension; he described it as "not helpful." Capsule 572 was then started, to be taken at breakfast time and at 2 p.m. following his discharge. At his first visit to the outpatient department, he said: "At first, the capsule made me a little nervous and I noticed a slight tingling sensation in my face. All that wore off within an hour and I started feeling more alert. I had to make a lot of calls. I was able to do it almost easily. I am 100 per cent better than last week." During the next four weeks, the findings remained about the

same. Some of his more significant statements were: "Yesterday, a half hour after the capsule, my face felt hot and tingled for about 10 minutes; a feeling of well-being was there, too." "Previously, I had a need for sweets between the spells of drinking. Now this is gone." "Before, I used to feel unhappy in my work. Now, I am quite satisfied doing the same work."

A week later, capsule 571 was given again for one week in the same dose as 572. At his next visit, his first sentence was: "Those capsules you gave me last time were useless. I guess they forgot to put anything in." Capsule 572 was then resumed and continued for seven more months. Some further comments during this time were: "These tablets pep me up a little. I feel quite good, even though I still tend to tire. A couple of times a thought of having a drink came to my mind, but I was able to dismiss it. Those capsules were also helpful when I was disappointed and a little depressed." "Yesterday, when business slowed down, I felt depressed and disgusted with my job but I didn't do anything foolish. I thought of taking a drink, but I kept myself from it." "Business picked up, I got a few breaks. By the way, I had a funny dream. I dreamed I planned to take a few drinks. Was I relieved when I woke up and realized it was a dream." This dream was preceded by the patient's having been with a friend in a bar, without drinking himself. Toward the end of the period of treatment he said: "Business is down a bit. I feel tired. The capsules help only when I am not too tired." In the course of this interview, the patient brought up a depressing sexual experience. He gradually realized that he projects his feelings and conflicts onto his business and that he feels tired when he is depressed. It was pointed out to him that, when he was depressed more markedly, he might have to take more than the usual dosage of two capsules daily. At the last visit he said: "I have found that these capsules are most effective when I take one at 7 a.m. and another one at 10 a.m. That carries me for the whole day." At the conclusion of the study, the code 571 was found to represent placebo and 572 the active medication.

The results obtained in this patient are representative of those obtained in the majority of patients, except that he was seen for a longer period of time. It can be concluded that Dexazyme is peculiarly well adapted to the management of depression in the alcoholic. As it is probable that ethanol exerts its effect on a specific phase of nerve respiration that is concerned with glucose or pyruvate metabolism, and that it acts synergistically with barbiturates to depress the energy-consuming and energy-yielding processes in the brain,[4] it is likely that Dexazyme acts both to combat directly the depression caused by alcohol, by means of its central stimulant moiety, as well as to support carbohydrate metabolism interfered with by the action of alcohol. It has been noted that analeptic agents are of value when a patient is so depressed that he cannot be aroused or if the pulse is markedly reduced in rate or quality. This is true only for the acute attack, whereas the results reported here deal with the supportive treatment of the withdrawal syndrome and of the depression in the subacute and chronic stages.

SUMMARY

A controlled double-blind study of 100 patients suffering from depression secondary to excessive use of alcohol and other depressant drugs was used to evaluate the effectiveness of Dexazyme, a new combination of three structurally dissimilar central nervous system stimulants and of three vitamins important in carbohydrate metabolism. Seventy-six per cent of patients treated with this medication showed significant physical and psychological improvement, whereas improvement in those receiving placebo medication was limited to 30 per cent and was less marked. Mild side effects (flushing and tingling of the face; nervousness) occurred temporarily in 4 treated patients, but these could be stopped at once on discontinuing medication and ceased gradually as treatment was continued. Dexazyme is

a useful adjunct to psychotherapy in the withdrawal stage of alcoholism and narcotic addiction, as well as during the subsequent follow-up.

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We wish to thank the G. F. Harvey Co., whose medical department supplied the Dexazyme and placebo used in this study.

RESUMEN

Se llevó a cabo un estudio doblemente verificado ciego en 100 pacientes que sufrían de depresión secundaria al consumo excesivo de alcohol y de otros compuestos depresores, para evaluar la eficacia de la Dexazyme. Este preparado representa una asociación de 3 estimulantes del sistema nervioso central de estructuras químicas diferentes y de 3 importantes vitaminas para el metabolismo de los hidratos de carbono. El 76 por ciento de los pacientes tratados con este medicamento experimentó una mejoría física y psicológica significativa. En cambio, la mejoría se limitó al 30 por ciento en los pacientes tratados con placebo. La mejoría en estos casos fue menos marcada. En 4 de los pacientes tratados se produjeron efectos secundarios leves y transitorios (enrojecimiento y hormigueo de la cara, nervosidad). Estos efectos pudieron hacerse desaparecer en cuanto se suspendió el tratamiento, y cedieron gradualmente a medida que la terapia continuaba. Dexazyme es un útil agente coadyuvante de la psicoterapia para suprimir el alcoholismo o la adición a los narcóticos, como también durante el ulterior período de observación de los pacientes.

RESUME

Cent sujets souffrant d'une dépression consécutive à l'usage excessif d'alcool et d'autres drogues déprimantes ont fait l'objet d'une étude "double blind" (expériences dans lesquelles ni le chercheur ni le malade connaît la nature du médicament mis à l'épreuve) visant à déterminer l'efficacité du Dexazyme, nouveau composé associant trois stimulants du système nerveux central, d'une structure différente, et trois vitamines importantes dans le métabolisme des hydrates de carbones. Soixante-seize pour cent des malades traités avec ce médicament ont manifesté une amélioration physique et psychologique significative, alors que l'amélioration n'atteignait que 30 pour cent et était moins prononcée chez les malades ayant reçu un remède factice. De légers effets secondaires passagers (bouffées de chaleur et picotements du visage, nervosité) se sont manifestés chez quatre des sujets traités, mais ces effets ont pu être arrêtés immédiatement en suspendant le médicament et ont disparu progressivement après reprise du traitement. Le Dexazyme est un adjuvant utile de la psychothérapie pendant la période de privation de l'alcoolisme et de la toxicomanie, ainsi qu'au cours des soins post-hospitaliers.

REFERENCES

1. Block, M. A.: Medical treatment of alcoholism, J. A. M. A. 162:1610–1619, 1956.
2. Fraser, H. F.; Wikler, A.; Isbell, H., and Johnson, N. K.: Partial equivalence of chronic alcohol and barbiturate intoxications, Quart. J. Stud. on Alcohol 18:541–551, 1957.

3. SANDBERG, F.: A quantitative study on the alcohol-barbiturate synergism, Acta physiol. Scandinav. 22:311–325, 1951.
4. SUTHERLAND, V. C.; HINE, C. H., AND BURBRIDGE, T. N.: The effect of ethanol on cerebral cortex metabolism in vitro, J. Pharmacol. 116:469–479, 1956.
5. WELLMAN, M.: Management of the late withdrawal symptoms of alcohol, Canad. M. A. J. 71:360–365, 1954.

Commission of Neurochemistry of the World Federation of Neurology Meets

The Commission of Neurochemistry of the World Federation of Neurology met for the first time at the Institut Bunge in Antwerp, Belgium, on September 29 and 30, 1959. Dr. Ludo van Bogaert, President of the Federation, and Dr. Charles Poser, Medical Executive Officer, assisted at the meeting.

The commission discussed the participation of neurochemists in the different international congresses. A permanent secretariat is to be established at the Institut Bunge in Antwerp. Dr. A. Lowenthal was named secretary of the commission.

Plans were laid for holding a symposium on neurochemistry in Rome during the Congress of Neurology of 1961. The two major topics to be covered are (1) lipids, lipoproteins, and their metabolism, and (2) disorders of myelin (not including disseminated sclerosis).

The commission plans to establish a registry of neurological material available for neurochemical investigation. It is hoped that neurological associations and neuropathological centers will be informed in the near future of the type of material wanted by the neurochemists and of the conditions under which this material is to be obtained and shipped. All requests and enquiries are to be addressed to the secretary of the commission, who will see to it that the necessary contacts are made between physicians offering material and those requesting it for chemical study. It should be understood that, although collaborative efforts are encouraged, each investigator retains full publication rights concerning the material he furnishes.

The secretary of the commission will endeavor to keep the various medical and scientific journals informed about the activities of the commission and welcomes any suggestions from interested physicians.

Attitudinal Factors Influencing Outcome of Treatment of Hospitalized Psychiatric Patients

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It is well known that comparable results are frequently obtained in treating similar patient groups by widely different methods. Further, patients with illnesses of similar type and severity and of like background (age, education, social class, and so on) may vary greatly in their response to what appears to be nearly identical treatment. These considerations have led to a number of efforts to identify factors, other than the specific treatment prescribed and the nature of the patient's illness, that might be related to therapeutic outcome.

A factor akin to placebo reactivity has been suggested by Rosenthal and Frank[9] as influencing the outcome of psychotherapy. They point out that reported improvement rates of neurotic patients treated by widely different forms of psychotherapy are often around 60 per cent, and that this same percentage of patients with illnesses such as "colds" and headaches, in which emotional components play a major role, will exhibit a placebo effect. Additional evidence of the similarity of the factors operating in psychotherapy and the placebo effect was reported by Gliedman et al,[1] who found that symptom reduction in a group of psychoneurotic patients treated with placebos compared favorably with those treated with short-term psychotherapy.

Probably of equal potential importance with respect to the outcome of psychotherapy are a number of characteristic attitudes toward the self and others. Haimowitz and Haimowitz,[4] for example, found that neurotic patients who exhibit chiefly intrapunitive patterns of response to stress, that is, individuals who attempt to relieve tensions by directing hostilities inward upon the self as revealed by Rorschach percepts, tend to respond more favorably to psychotherapy than do patients who show predominately extrapunitive patterns, that is, who direct their hostilities outward. Gordon and Cartwright[3] found a positive association in neurotic patients between democratic and accepting attitudes toward others and benefit from psychotherapy. Tougas[10] reports that neurotic patients who show a high degree of ethnocentrism (defined as the tendency to harbor negative, hostile, and condescending attitudes toward members of groups other than one's own) do less well in psycho-

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therapy, whether Rogerian or Sullivanian in orientation, than do patients of a less ethnocentric bent.

Finally, in several investigations attention has centered on the attitudes of patients toward various aspects of the treatment situation itself and the efficacy of treatment. The importance of hospital or ward morale to therapeutic outcome is well known;[5] Michaels[6] believes morale to have been the single most important factor in the treatment of psychotics in an army general hospital. Gliedman et al[2] investigated the conscious incentives of patients seeking psychotherapy. They found that patients whose incentives were "noncongruent" with those of therapists generally (e.g., threats from law officers or pressure from employers) showed as much improvement as those patients whose incentives were "congruent" with those of therapists (e.g., hope of relief from psychological stress or improvement in interpersonal relationships).

The focus of our research was the investigation of further attitudinal factors that, within the context of inpatient psychiatric treatment, might also be related to the outcome of treatment.

METHOD

Evaluation Techniques. PSYCHIATRIC ATTITUDES BATTERY. This battery of psychological tests was constructed to assess the attitudes of a heterogeneous group of hospitalized psychiatric patients in three interrelated areas, namely, toward psychiatric hospitals, psychiatrists, and psychiatric treatment. The most obvious and elementary attitudinal characteristic thought to warrant study was the over-all favorableness of the patient's attitudes. By "favorableness" was meant the degree of trust and confidence the patient indicated, implicitly or explicitly, in psychiatric treatment, or the degree of competence and sincere interest he imputed to the doctor or the hospital as a whole. It was felt that favorableness of attitude might vary greatly at different levels of consciousness so that the battery included tests directed at both conscious and more deep-seated attitudes. The tests also were constructed so as to permit the further analysis of test items for more specific attitudinal factors that might be related to the outcome of treatment. These included: (1) The patient's perception of the patient's role in therapy (active, passive), (2) his perception of the psychotherapeutic situation (pleasurable, neutral, or unpleasurable), (3) the psychiatrist (supporting, ambivalent, hostile), and (4) the psychiatric hospital (protective, neutral, threatening).

The Psychiatric Attitudes Battery is made up of four tests: (1) The Picture Attitudes Test, which is a projective technique modeled after Murray's Thematic Apperception Test,[7] and which consists of cards exemplifying two basic situations, the Patient-Doctor card and the Psychiatric Hospital card, (2) the Sentence Completion Attitudes Test, (3) the Multiple Choice Attitudes Questionnaire, and (4) the Souelem Attitude Scale. The last three tests are aimed at progressively more conscious attitudes. The complete battery, along with detailed instructions for administration and scoring and data relating to its standardization and reliability, has been published elsewhere.[8]

THE DEGREE OF IMPROVEMENT RATING SCALE. This scale was developed in order to

investigate the relationship of the attitudinal factors assessed by the Psychiatric Attitudes Battery to the outcome of treatment. Judgments on an eight point scale are made by the patient's doctor of the direction and degree of the patient's change, using his condition during the first week of hospitalization as a base line. The scale does not permit an estimate of the patient's condition in any absolute sense. Therefore it can be used to compare the degree of therapeutic change in patients who differ greatly in their initial conditions both in diagnosis and degree of psychiatric impairment. The specific rating scale instructions and scoring categories are as follows:

Below is a rating scale consisting of eight categories for estimating the degree to which a patient's condition has changed (gotten better or worse) since the first week of admission. It is important to note that in the use of this scale the important consideration is not the patient's present condition per se but rather his present condition compared to his condition during the first week of hospitalization.

Circle the number of the appropriate category.

1. Apparently well (no or slight remaining evidence of psychiatric impairment).

2. Symptomatically better plus improvement in basic psychopathology as evidenced by two or more of the following: (a) Improvement in patient's personal adjustment and social relationships at the hospital, (b) improvement in the patient's ability to meet current stresses (i.e., without recourse to the neurotic or other symptoms that characterized his adjustive behavior earlier); (c) appreciable "insight" into the nature of his illness or psychological functioning accompanied by an improvement in his over-all adjustment.

3. Symptomatically better plus improvement in basic psychopathology as evidenced by one of the indices listed under category 2.

4. Symptomatically better (symptoms less apparent, less active, or less incapacitating than earlier but basic psychopathology still very much in evidence).

5. Essentially unchanged.

6. Symptomatically worse (symptoms more florid, active, or incapacitating than at time of admission).

7. Symptomatically worse plus one of the following: (a) New or additional symptoms of graver significance than those present at admission, (b) patient more out of contact with reality than at admission, (c) patient farther from (less accessible to) treatment than at admission.

8. Symptomatically worse plus two or more of the indices listed under category 7.

POPULATION

The 142 patients tested in this study constituted a heterogeneous group. Women comprised 62 per cent of the sample. The patients ranged in age from 16 to 72 with a median age of 34.7 years. Some 55 per cent had been hospitalized previously, 39 per cent had received a substantial amount of psychotherapy out of hospital, and 28 per cent had had somatic therapy (electroshock therapy or insulin) at some time in their lives. They varied greatly in educational achievement and socioeconomic status and included members of the chief occupational groups and the three major religions. Diagnostically, 17 per cent were neurotic, 57 per cent psychotic, and 26 per cent had personality disorders. Although all patients had some psychotherapy during the admission in which they were tested, for 64 per cent this was the principal treatment; 30 per cent had electroshock and 6 per cent insulin coma treatment. Many of the patients had psychotropic drugs of one kind or another, and all participated to some extent in the hospital program of avocational and social rehabilitation.

ADMINISTRATIVE PROCEDURES

The Psychiatric Attitudes Battery was administered to 142 patients at the Institute of Living one to two weeks after admission. There was no selection of patients with respect to diagnosis or other factors so as to ascertain whether or not the attitudinal factors studied might relate to therapeutic outcome, despite wide differences in the backgrounds and illnesses of the patients as well as the treatment programs they underwent.

The outcome of treatment was ascertained by use of the Degree of Improvement Rating Scale. This scale was completed for each patient by his therapist from four to six months after the patient's admission to the hospital.

TREATMENT OF DATA AND RESULTS

The various background factors (age, education, previous treatment, and so on) were recorded and coded for each patient along with his scores for the several attitudinal factors studied and his rating on the Degree of Improvement Scale. Each background factor was then checked against every attitudinal factor and the significance of any observed association ascertained by means of χ^2 analyses. For each of the attitudinal factors a comparison was then made with the therapists' ratings in like manner. In this way the relationship of various attitudes to the outcome of treatment could be determined as well as the contribution of various background factors to these attitudes.

The results of these analyses will be given and discussed under two headings: the general favorableness of patients' attitudes, and more specific attitudinal factors relating to patients' apperceptions of the therapeutic situation. To facilitate statistical comparisons, therapists' ratings were dichotomized into improved (ratings 1 through 4) and unimproved (ratings 5 through 8) categories. The patients' favorableness of attitudes scores were classified as above or below the median.

FAVORABLENESS OF PATIENTS' ATTITUDES

The over-all favorableness of the patient's attitudes in the three interrelated areas under study (psychiatric hospitals, psychiatrists, and psychiatric treatment) was measured by three tests. The Sentence Completion Attitudes Test, a semiprojective technique, was directed at less conscious or more deep-seated attitudes, whereas the Multiple Choice Attitudes Questionnaire and Souelem Attitude Scale tapped more conscious attitudes. (Details of the scoring method are given elsewhere.[8]) A total numerical score bearing an inverse relationship to the favorableness of attitudes was obtained on each patient with each test.

From table I, the over-all favorableness of less conscious attitudes manifested on the Sentence Completion Attitudes Test bears no statistically significant relationship to outcome as rated by the therapists. However, the favorableness of more conscious attitudes as measured by the Multiple Choice Attitudes Questionnaire and Souelem Attitude Scale were related to therapeutic outcome to a significant degree.

In terms of background factors, only no history of previous psychiatric treatment was significantly associated with the favorableness of attitudes; patients who had had an appre-

ciable amount of psychotherapy and/or somatic therapy (electroshock therapy or insulin) had less favorable attitudes as measured both by the Sentence Completion Attitudes Test and the Multiple Choice Attitudes Questionnaire. There was no difference between patients whose previous treatment had been somatic rather than psychological. There was no association found between favorableness of attitude and the factors of patient age, educational level, occupation, religion, duration of the present illness, history of previous hospitalization (and duration of or interval since previous hospitalization), or a history of psychiatric illness requiring hospitalization among relatives.

These data suggest that the factor of favorableness of conscious attitudes, which is related to therapeutic outcome, is not greatly dependent on commonly considered background and experiential factors.

SPECIFIC ATTITUDINAL FACTORS

Four specific attitudinal factors were studied for their possible relationship to the outcome of treatment. These were qualitative differences in the patients' perceptions of various aspects of the treatment situation, and did not lend themselves to quantification. These attitudes were inferred from the feelings and conceptions the patient projected into the stories elicited by the Patient-Doctor and Hospital cards of the Picture Attitudes Test.

The first factor was the perception of the degree of activity (verbal and nonverbal) of the patient in the psychotherapeutic situation (Patient-Doctor card). The three scoring categories for this factor were predominately active, at times active and at times passive, and predominately inactive or passive. Patients judged improved by therapists' ratings saw the patient's role as significantly more often both active and passive (rather than wholely active) than patients judged unimproved ($\chi^2 = 3.77$, $P < 0.05$).

The patient's view of the psychotherapeutic situation (Patient-Doctor card) as a pleasur-

TABLE I

*Distribution of Patients' Over-all Attitudes Classified According to Independent Judgment of Patient Improvement**

	Measure					
	Sentence Completion Attitudes Test†		Multiple Choice Attitudes Questionnaire‡		Souelem Attitude Scale§	
Therapists' ratings	Favorable (below median)	Unfavorable (above median)	Favorable (below median)	Unfavorable (above median)	Favorable (below median)	Unfavorable (above median)
Improved (1–4)	50	53	61	52	57	48
Unimproved (5–8)	14	17	9	18	8	17

* Different totals are involved in each of the three measures in that a number of records in each instance were unscoreable.

† $\chi^2 = 0.09$, not significant. ‡ $\chi^2 = 3.79$, $P < 0.05$. § $\chi^2 = 4.01$, $P < 0.05$.

able, neutral, or unpleasurable (painful) experience was a second factor investigated. Here a favorable outcome was related to seeing the therapy situation in neutral rather than distinctly pleasurable terms ($\chi^2 = 7.20$, $P < 0.01$).

The story elicited by the Patient-Doctor card was also analyzed for the patient's perception of the psychiatrist. There were no statistically significant differences between patients rated as improved compared with those judged unimproved with regard to their perceptions of the doctor as (1) interested, supporting, protective, (2) neutral or ambivalent, or (3) threatening, disinterested, or hostile.

Finally, the response to the Hospital card was scored for the patient's perceptions of the hospital as (1) protective or supporting, or (2) neutral, as against (3) cold or menacing. A marked degree of association was found between having improved in treatment and seeing the hospital in supporting, protective, or neutral terms rather than in grim or threatening terms ($\chi^2 = 5.36$, $P < 0.02$).

With regard to background data, patients with a history of previous hospitalization had a greater tendency to perceive the hospital as somewhat cold or sinister than patients hospitalized for the first time. Also, patients whose previous treatment was somatic had a greater tendency to perceive the psychotherapeutic situation in neutral (rather than distinctly pleasurable or unpleasurable) terms than patients who had received psychotherapy. With these exceptions, however, the qualitative attitudes discussed in this section were found to bear little relationship to background considerations.

DIAGNOSIS

The patients in this study were considered in three diagnostic categories: neurosis, psychosis, and personality disorder. With respect to the attitudinal factors studied, the group of neurotic patients had more favorable attitudes than did the psychotic patients. Aside from this difference, however, there was no consistent or significant relationship between diagnosis and the attitudinal factors studied.

The degree of improvement as measured by use of the Degree of Improvement Rating Scale was greatest for the group of neurotic patients, with the group of psychotics and personality disorders following in that order.

CONCLUSIONS

As was indicated earlier, in recent years there has been a growing interest in understanding the determinants of therapeutic outcome better. Implicit in such interest is the hope of someday being able to bring about the most favorable outcome in the largest group of patients, a goal that could be scarcely of more practical importance to the clinician. Comparatively ignored in the search for such determinants has been the patient's attitudes toward and expectations of the treatment situation itself. Our research has been an effort to add to our understanding of such attitudinal factors as might be related to therapeutic outcome.

To this end, the general favorableness of the patient's attitudes toward psychiatric hospitals, psychiatrists, and psychiatric treatment was investigated. The favorableness of

more conscious attitudes, which seems to enjoy some independence from background factors such as age, occupation, and so on, was found to be significantly related to successful outcome of treatment. The favorableness of less conscious attitudes bore no such relationship, however.

Several more specific attitudinal factors relating to the patient's perceptions of various aspects of the treatment situation were also investigated for their relationship to therapeutic outcome. A favorable response to treatment was associated with the tendency at the start of treatment to perceive the psychotherapeutic situation as a neutral (rather than distinctly pleasurable) experience, to see the hospital as supporting, protective, or at least neutral (rather than grim or threatening), and to consider the patient's role in therapy as being both active and passive (rather than wholely active). No association was found between the patient's perception of the psychiatrist (as interested, neutral, or hostile, and so on) and the outcome of treatment. Background factors such as age and previous treatment bore little relationship to these attitudes.

ACKNOWLEDGMENT

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RESUMEN

Como se había indicado antes, en estos últimos años ha existido un creciente interés por comprender mejor los determinantes de los resultados terapéuticos. En tal interés se haya implícita la esperanza de que algún día sea posible obtener los más favorables resultados en el más amplio grupo de pacientes, propósito éste que escasamente puede ser de mayor importancia práctica para el clínico. En las investigaciones de tales determinantes han sido comparativamente ignoradas tanto las actitudes del paciente como lo que se espera del tratamiento mismo. Las investigaciones de los autores constituyen un esfuerzo por añadir a su comprensión tales factores de la actitud que pueden estar relacinados con el resultado terapéutico. Con este propósito, se han investigado las actitudes generales favorables del paciente en relación con los hospitales psiquiátricos, los psiquíatras y el tratamiento psiquiátrico. Se halló que lo favorable de las actitudes más conscientes, las que parecen disfrutar de cierta independencia con respecto a factores tales como la edad, ocupación y otros, guardaban relación con el buen resultado del tratamiento. Sin embargo, lo favorable de las actitudes menos conscientes no entrañaron tal resultado. También se investigaron otros factores más específicos de la actitud, relacionando las percepciones del paciente en cuanto al tratamiento y su relación con el resultado terapéutico. Una respuesta favorable al tratamiento se asoció con una tendencia, al iniciarse éste, a percibir la psicoterapia como una experiencia neutra (más bien que de placer), a considerar el hospital como una institución protectora, de apoyo o, por lo menos, como un lugar neutro (más bien que desagradable o amenazador). También debe considerarse el papel del paciente en el tratamiento como un ser activo y pasivo a la vez (más bien que completamente activo). No se halló asociación entre la percepción del psiquíatra por el paciente (como interesado,

neutro u hostil) y el resultado del tratamiento. Factores tales como la edad y el tratamiento previo mostraron muy poca relación con estas actitudes.

RESUME

Ainsi qu'on l'a déjà fait observer, la meilleure compréhension des éléments qui déterminent le résultat thérapeutique a suscité un intérêt croissant au cours des dernières années. Dans la recherche des déterminants de cet ordre, l'attitude et les espérances du malade à l'égard de la situation thérapeutique même ont été relativement négligées. Afin de remédier à cette lacune, le caractère favorable de l'attitude du malade en général à l'égard des hôpitaux psychiatriques, des psychiatres et du traitement psychothérapique a fait l'objet d'une étude. On a constaté que le caractère favorable des attitudes relativement conscientes, attitudes qui paraissent dans une certaine mesure être indépendantes des facteurs de fond tels que l'âge, la profession, etc., se rattache d'une manière significative au succès du traitement. Toutefois, le caractère favorable des attitudes moins conscientes ne relevaient d'aucun rapport de cet ordre. Plusieurs facteurs d'attitude plus spécifiques se rapportant à la faculté du malade de percevoir divers aspects de l'état du traitement ont également été étudiés en ce qui touche leur rapport avec le résultat thérapeutique. On a constaté qu'une réponse favorable au traitement s'associait avec une tendance, au début du traitement, à percevoir la situation psychothérapeutique comme une expérience neutre (plutôt que nettement agréable), à concevoir l'hôpital comme un soutien, une protection, ou tout au moins comme un élément neutre (plutôt que comme un élément sinistre ou menaçant), et à considérer le rôle du malade dans le traitement comme étant à la fois actif et passif (plutôt qu'entièrement actif). On n'a constaté aucune association entre la manière dont le malade perçoit le psychiatre (intéressé, neutre, hostile et ainsi de suite) et le résultat du traitement. Les facteurs d'arrière-plan tels que l'âge et les traitements antérieurs n'avaient que peu de rapport avec ces attitudes.

REFERENCES

1. Gliedman, L. H.; Nash, E. H., Jr.; Imber, S. D.; Stone, A. R., and Frank, J. D.: Reduction of symptoms by pharmacologically inert substances and by short-term psychotherapy, A.M.A. Arch. Neurol. & Psychiat. *79*:345–351, 1958.
2. Gliedman, L. H.; Stone, A. R.; Frank, J. D.; Nash, E., Jr., and Imber, S. D.: Incentives for treatment related to remaining or improving in psychotherapy, Am. J. Psychotherapy *11*:589–598, 1957.
3. Gordon, T., and Cartwright, D. S.: The effect of psychotherapy upon certain attitudes toward others. *In*: Rogers, C. R., and Dymond, R. F. (editors): Psychotherapy and Personality Change, Chicago, University of Chicago Press, 1954, pp. 167–195.
4. Haimowitz, N. R., and Haimowitz, M. L.: Personality changes in client-centered therapy. *In*: Wolff, W., and Precker, J. A. (editors): Success in Psychotherapy, New York, Grune & Stratton Personality Monographs, 1952, pp. 63–93.
5. Klemes, M. A.: The therapeutic effect of group morale on a psychiatric hospital ward, Bull. Menninger Clin. *15*:58–63, 1951.
6. Michaels, J. J.: Morale on a neuropsychiatric service in an Army General Hospital, J. Nerv. & Ment. Dis. *106*:165–175, 1947.
7. Murray, H. A.: Thematic Apperception Test (and Manual), ed. 3, Cambridge, Mass., Harvard University Press, 1943.

8. Reznikoff, M.; Brady, J. P., and Zeller, W. W.: The Psychiatric Attitudes Battery: A procedure for assessing attitudes toward psychiatric treatment and hospitals, J. Clin. Psychol. *15*:260–266, 1959.
9. Rosenthal, D., and Frank, J. D.: Psychotherapy and the placebo effect, Psychol. Bull. *53*:294–302, 1956.
10. Tougas, R. R.: Ethnocentrism as a limiting factor in verbal therapy. *In:* Rogers, C. R., and Dymond, R. F. (editors): Psychotherapy and Personality change, Chicago, University of Chicago Press, 1954, pp. 196–214.

Suicide by Means of Victim-Precipitated Homicide

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The purpose of this study is to examine the postulate that some individuals commit suicide by provoking others to kill them. So far as the present writer knows, this postulate has not before been empirically and statistically investigated.

In psychiatric and psychoanalytic literature it is often suggested that: (1) Suicide may be a form of murder when, as Bromberg[1] points out, the desire to kill is turned on self; (2) murder may be a bizarre form of suicide because the "victim represents the murderer in the latter's subconscious",[2, 3] or (3) some persons commit murder with the hope of being apprehended, convicted, and punished. In all of these circumstances attention is focused on the offender or murderer, and the victim is viewed as a passive, relatively unimportant recipient of a homicidal assault. Research analyzed in the present paper concentrates on the role of the victim in criminal homicide and conceives him as one who commits an unorthodox type of suicide by precipitating his own death through an agent other than himself.

Empirical data collected from police files have given substance to some of the theoretical conceptualism of French and German criminologists[4, 5] regarding the role of the victim, and the present writer has attempted to cast new light on the contribution of the victim to his own victimization.[6] Summarizing the analysis of victim-precipitated homicide we have said:

> In many cases the victim has most of the major characteristics of an offender; in some cases two potential offenders come together in a homicide situation and it is probably only chance which results in one becoming a victim and the other an offender. At any rate, connotations of a victim as a weak and passive individual, seeking to withdraw from an assaultive situation, and of an offender as a brutal, strong, and overly aggressive person seeking out his victim, are not always correct. Societal attitudes are generally positive toward the victim and negative toward the offender, who is often feared as a violent and dangerous threat to others. However, data in the present study—especially that of previous arrest record—mitigate, destroy, or reverse these connotations of victim-offender roles in one out of every four criminal homicides.[6]

Further review of the cases previously analyzed has led to what Merton calls the "serendipity pattern," which refers to the fairly common experience of observing an unanticipated, anomalous, and strategic datum that becomes the occasion for developing a new hypothesis or for extending an existing theory.[7] The original research on criminal homicide that was directed toward the test of several hypotheses has yielded a fortuitous by-product, an unexpected observation that bears upon other theories that were not in question when the research was begun. Although the victim in criminal homicide may in many cases precipitate his own demise and may be a murderer or homicide offender in reverse, it seems apparent also that he may have suicidal impulses that are manifested in his victimization. It is this proposition that we shall now attempt to examine.

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THE PRESENT STUDY: DEFINITION AND TECHNIQUE

The present research grows out of an extensive analysis of 588 consecutive criminal homicides recorded by the Homicide Squad of the Philadelphia Police Department between January 1, 1948, and December 31, 1952. These slayings provide sufficient background information to establish much about the nature of the victim-offender relationship. Of them, 150, or 26 per cent, have been designated as victim-precipitated homicides. The remaining 438 have been designated as non-victim-precipitated cases.

The term victim precipitated is applied to those criminal homicides in which the victim is a direct, positive precipitator in the crime. The role of the victim is characterized by his having been the first in the homicide drama to use physical force directed against his subsequent slayer. These are cases in which the victim was the first to show and to use a deadly weapon, to strike a blow in an altercation, to commence the interplay or resort to physical violence. Although there is much similarity between these cases and those the law might consider as justifiable grounds for mitigation of the offense from murder to manslaughter, there are some cases in the former group that would not serve to reduce an offender's responsibility. Infidelity of a mate or lover, failure to pay a debt, or use of vile names by the victim could mean that he played an important role in inciting the offender to overt action in order to seek revenge, to win an argument, or to defend himself. However, mutual quarrels or wordy altercations do not alone constitute sufficient provocation under law, nor are they included in the meaning of victim-precipitated homicide. Primary demonstration of physical force supplemented by scurrilous language by the victim characterized the most common victim-precipitated homicides. All these slayings were listed by the police as criminal cases, none of the offenders was exonerated by a coroner's inquest, and all the offenders were tried in criminal court.

These slayings involved victims who were first in the homicide drama to resort to physical aggression, and most of them patently appeared to be willing victims of the fatalities. For example, a husband had threatened to kill his wife during several violent family quarrels. He would usually later admit his regret for having beaten her and for having suggested the idea of her death. In the last instance, he first attacked her with a pair of scissors, dropped them, and then grabbed a butcher knife from the kitchen. In the ensuing struggle that ended on their bed, she had possession of the knife, and there was considerable doubt in the minds of the jury whether the husband invited his wife to stab him or deliberately fell on the knife. In another victim-precipitated homicide case a drunken husband, beating his wife in their kitchen, gave her a butcher knife and dared her to use it on him. She claimed that, if he should strike her once more, she would use the knife, whereupon he slapped her in the face and she fulfilled the promise he apparently expected by fatally stabbing him.

The 150 victim-precipitated homicides were carefully selected after thorough reading and investigation of each police dossier. There was ample evidence in all cases that the victim was the first to launch an aggressive assault, usually with an obviously lethal weapon. Although this is the chief criterion for designation as a victim-precipitated homicide, it alone

does not provide proof of suicidal desires. Such impulses are inferred from these data, and it is this inference we are investigating. Veracity of reports from witnesses and defendants about the victim's primary role in the assaultive duet is assumed because of observed diligence employed by the police in collecting evidence. Hypotheses are then constructed on the basis of this assumption. However, if any false witness reports are recorded in the police files, and if the victim in some of these cases did not in fact begin the violent resort to lethal weapons, then the raw data would be biased against the proposition that these 150 victims possessed suicidal impulses. Therefore, if there are any empirical confirmations of hypotheses built upon this basic proposition they will have been produced even under the possible handicap that incorrect testimony in a few cases would provide. In short, the raw data are either valid and neutral or skewed against our proposition; hence, proved hypotheses that emerge under rigid standards of statistical tests must be considered as strongly supported evidence for the assumption of suicidal impulses among the victims.

There may be many means other than criminal homicide by which an individual can precipitate his own victimization. His own deliberately designed death may appear in official public records as an accidental death or a justifiable or excusable homicide. Although difficult to establish as victim-precipitated homicide cases, they should provide fruitful sources for future research.

We are hypothesizing that the victim in our victim-precipitated homicide cases committed suicide through an agent or another person. Instead of a murderer performing the act of suicide by killing another person who represents the murderer's unconscious, and instead of a suicide representing the desire to kill turned on self, the victim in these victim-precipitated homicide cases is considered to be a suicide prone who manifests his desire to destroy self by engaging another person to perform the act. The postulate itself is, of course, not a statistically testable one. The nature of the proposition and the subjects involved preclude direct observation or clinical investigation. Statistical techniques and the types of data used in this study constitute quantitative evidence that tests hypotheses that in turn provide supportive empirical strength for the basic proposition. At present this is the most that can be expected of many psychiatric and psychoanalytic ideas. In much research, as in the present analysis, observed phenomena lead the researcher into a posteriori dilemmas of interpretation, and the recorded data sometimes become more heuristic than conclusive. In this way, however, the scientific study of human behavior accumulates knowledge and becomes increasingly refined.

Analysis of the 150 victim-precipitated homicides involves comparison with the non-victim-precipitated homicide cases, reference to homicide suicides,[9] and to suicide studies in general. Statistical treatment of the data occurs whenever a given hypothesis may be tested in this way. The chi square (χ^2) test has been used to determine whether various sets of attributes are significantly associated. This is a most useful nonparametric test when working with the kind of qualitative data that are found in the present study, for any spurious association due only to chance is reduced to a minimum by application of the test. Chi square measures the differences between observed and expected distributions, thereby indicating the probability (P) that the observed distributions could have occurred by chance

variations. In addition, Pearson's coefficient of mean square contingency (C) has been employed to indicate the degree of association. In this study a P value less than 0.05, or the 5 per cent level of significance, is used to determine a statistically significant association.

HYPOTHESES AND FINDINGS

An integrated psychoanalytical and sociological approach to suicide takes account both of social attributes (race, sex, age, and so on) and of psychopathological mechanisms that determine behavior. The limits of the present paper permit reference only to those variables in both types of literature that are relevant and operative within the confines of our data.

That suicide rates are higher among persons with high social status than among those with low social status is well documented.[10–12] Under the assumption that Negroes in American society represent a collective group that has a lower social status than whites, it has been empirically verified that the suicide rate varies directly with social status, or, more specifically, that the rate for whites is significantly higher than the rate for Negroes.[10] Homicide, on the other hand, is an act of aggression more common to the lower-status categories. In their recent study, Henry and Short have theorized that the degree of external restraint distinguishes individuals who choose to commit one rather than the other act of aggression which, they assume, originates in frustration. An individual is externally restrained to the degree that his alternatives of behavior are limited by others. The more an individual is externally restrained, they postulate, the more likely he will regard others as legitimate targets for aggression. Hence, the lesser the degree of external restraint upon an individual, the more likely that he will commit suicide rather than homicide.[10]

Provocative theoretical insights about suicide have come from psychoanalysts who find that the person attempting suicide directs impulses of hate and aggression towards the self instead of outwardly. Freud developed the concept of the death instinct,[13] and the part it plays in suicide has been amply described by Menninger. Self-destructive tendencies are compounded of: (1) A wish to kill undesirable features or identifications within the self, (2) a wish to be killed, a masochistic desire to atone, and (3) a wish to die to obtain reunion with a loved one. Suicide, Menninger points out, is murder by the self: "It is a death in which are combined in one person the murderer and murdered."[14]

Fenichel describes an additional element, the presence of a punishing conscience or superego: "The suicide of the depressed patient is, if examined from the standpoint of the superego, a turning of sadism against the person himself, and the thesis that nobody kills himself who had not intended to kill somebody else is proved by the depressive suicide. From the standpoint of the ego, suicide is, first of all, an expression of the fact that the terrible tension the pressure of the superego induces has become unbearable."[15]

Theoretical insights such as these make abundantly clear the fact that homicide and suicide are indeed considered to be closely related phenomena, not only in terms of broad social correlates but also as aggressive impulses found within the same individual. It is therefore but a slight theoretical distance to the hypothesis that a high proportion of persons who are killed as homicide victims are suicide prone. The data from victim-precipitated homicide cases suggest that these victims are willing objects of homicidal assaults, that they encourage

their own victimization. Except for the fact that they fail to use the lethal weapon directly on themselves, they are in effect committing suicide. This means, then, that a considerable portion of suicide is latent rather than manifest and is "hidden" among victim-precipitated homicides. We may ask, therefore, why the victim-precipitated homicide victim chooses this indirect source of destruction rather than the more obvious and direct course of action. The answer is complex and involves a set of untestable assumptions and empirically confirmable hypotheses.

We have noted that previous research has consistently found a positive and direct association between rates of suicide and higher-status categories.[10–12] Relative to the suicide-prone homicide victims we may hypothesize either that the victim-precipitated homicide victims possess social attributes similar to those who commit orthodox suicide, namely, that they are in high proportions likely to be members of the higher-status (white) category; or that the victim-precipitated homicide victims possess social attributes dissimilar to those who commit orthodox suicide, that is, that victim-precipitated homicide victims are in high proportions likely to be members of a lower-status (Negro) category.

The first hypothesis assumes that suicide-prone homicide victims and those who commit orthodox suicide have internalized and absorbed in almost equal degrees the prevailing conduct norms, goals, attitudes, and values of society. It further assumes that, like the direct suicide, the victim-precipitated homicide victim finds the terrible tension that pressure from the superego induces has become unbearable.

The second hypothesis assumes that the suicide-prone homicide victim has less completely internalized society's prevailing conduct norms, goals, attitudes, and values than those who commit direct suicide. It further assumes that tension and frustration resulting from the superego are less consciously realized in the victim-precipitated homicide victim than in the orthodox suicide.

Examining the data we find that the second hypothesis is confirmed. Analysis of the 150 victim-precipitated homicides in police files and of the 890 suicides in the files of the Medical Examiner's Office in Philadelphia for the period 1948 to 1952 reveals that there is a significant association between race and type of suicide.[16] It is obvious from table I that among persons who commit suicide—either directly or through a victim-precipitated homicide—a significantly higher proportion of whites (90 per cent) than of Negroes (10 per cent) commit orthodox suicide, and that a significantly higher proportion of Negroes (79 per cent) than of whites (21 per cent) commit suicide by becoming willing victims of homicides. In short, the lower-status category is positively associated with suicide-prone homicide victims.

It appears safe to assert also that there is greater incidence of unorthodox, indirect suicide than of orthodox, direct suicide among the lower-status category. Between 1948 and 1952 there were 86 Negro suicides in Philadelphia and 119 Negro victim-precipitated homicides. The overwhelming number of white suicides (804) compared to white victim-precipitated homicides (31) again confirms the hypothesis that suggests an association between low status and suicide committed through an agent other than self.

Comparison of the two types of homicide also reveals a significant association with race. Table II indicates that, although Negroes comprise a higher proportion of both victim-

precipitated and non-victim-precipitated homicides than do whites, their proportion among victim-precipitated homicide cases is significantly higher than among non-victim-precipitated homicide cases.

The coefficients of contingency for table I (0.52) and table II (0.09) show that there is a stronger association between the lower-status category and suicide-prone victim-precipitated homicide victims when the comparative groups are race and the two types of suicide (orthodox and indirect) than when the comparative groups are race and the two types of homicide (victim-precipitated and non-victim-precipitated).

As we have noted, our confirmed hypothesis assumes less internalization of the prevailing middle-class conduct norms and value system among indirect than among orthodox suicides. Having a previous arrest record is some index of failure to have a highly developed superego comprised of attitudes favorable to general community mores and laws. Unfortunately no data are available at present regarding the previous arrest records of persons who commit orthodox suicide, but we may compare the victim-precipitated homicide victims with (1) non-victim-precipitated homicide victims, and (2) persons who have committed homicide-suicide. On the basis of our previous assumptions and findings, we may then hypothesize that a higher proportion of suicide-prone victim-precipitated homicide victims have a previous arrest record than do either non-victim-precipitated homicide victims or persons who commit

TABLE I

Suicide and Victim-Precipitated Homicide, by Race

	Suicide		Victim-precipitated homicide	
	Number	Per cent	Number	Per cent
White	804	90.3	31	20.7
Negro	86	9.7	119	79.3
Total	890	100.0	150	100.0

$\chi^2 = 386.38$; $P < 0.001$; $C = 0.52$.

TABLE II

Victim-Precipitated and Non-Victim-Precipitated Homicide, by Race

	Victim-precipitated homicide		Non-victim-precipitated homicide	
	Number	Per cent	Number	Per cent
White	31	20.7	130	29.7
Negro	119	79.3	308	70.3
Total	150	100.0	438	100.0

$\chi^2 = 4.5$; $P < 0.05$; $C = 0.09$.

homicide-suicide. Table III confirms this hypothesis. It is interesting to note that the coefficients of contingency for table III show that there is a higher degree of association between the suicide-prone victim-precipitated homicide victims and previous arrest record when the comparative groups are victim-precipitated homicide victims and homicide-suicide persons ($C = 0.20$) than when the comparative groups are victim-precipitated homicide victims and non-victim-precipitated victims ($C = 0.17$). Moreover, table IV below shows that there is a significant association between victim-precipitated homicide victims and the attribute of having a previous arrest record of one or more assaults against the person, for 37 per cent of the suicide-prone victim-precipitated homicide victims compared to 21 per cent of the non-victim-precipitated victims have such a record.

The hypotheses confirmed thus far suggest an interpretive analysis. The victim who precipitates his own demise in criminal homicide is suicide prone. But he is unwilling to commit suicide. Suicide is a manifestation of aggression turned inward among those who commit orthodox suicide. The victim-precipitated homicide victim is more likely than the orthodox suicide to be a member of a lower-status category, and research has demonstrated that the lower socioeconomic class is more accustomed to aggressive, other-directed behavior.[22] This latter reason has been offered as a partial explanation of the higher homicide rate among Negroes. The suicide-prone victim-precipitated homicide victim, as a member of this lower status group, is more socialized to engage in outward aggression. It is for this reason that he is less likely to commit suicide in the orthodox and direct fashion. The homicide-suicide or the orthodox suicide is imbued with a conscious sense of guilt or remorse for previous behavior. But because a high proportion of victim-precipitated homicide victims have a previous arrest record, and particularly a previous record of assaults against the person, we may assume that they have less fully and consciously absorbed the predominant middle-class value system that is especially opposed to violent crimes. The victim-precipitated homicide victim is not culturally or psychologically conditioned to conceive himself on a conscious level as being guilty of prior acts, and he operates as an aggressor in most social situations

TABLE III

Victim-Precipitated Homicide, Non-Victim-Precipitated Homicide, and Homicide-Suicide, by Previous Arrest Record

	(A) Victims in victim-precipitated homicide		(B) Victims in non-victim-precipitated homicide		(C) Offenders in homicide-suicide	
	Number	Per cent	Number	Per cent	Number	Per cent
Previous arrest record	93	62.0	184	42.0	8	33.3
No previous arrest record	57	38.0	254	58.0	16	66.7
Total	150	100.0	438	100.0	24	100.0

For A and B: $\chi^2 = 17.38$, $P < 0.001$, and $C = 0.17$. For A and C: $\chi^2 = 7.15$, $P < 0.01$, and $C = 0.20$.

involving personal interaction. As he has incompletely internalized middle-class goals, attitudes, and values, or has absorbed them in an amorphous, diffusive manner, he likewise feels only a vague sense of guilt for his marital infidelity, personal inadequacy, previous criminal activity, and so on. His guilt does not quite rise to the conscious level that almost invariably appears among the orthodox suicides. Furthermore, self-inflicted death is almost outside his frame of reference as a means of solving problems or alleviating tension and frustration. Socially he is generally unaware of friends or relatives or associates who have used suicide to eliminate a problem situation. The lower-status categories, as noted, have very low rates of suicide. External, overt, other-oriented aggression has been the common personality pattern of a person in these categories. It is against others he has fought; it is others in his environment he has offended and who therefore have a claim to legitimized aggression against him. But he must incite his sufferers to the pitch of aggravated aggression. He must present himself as an aggressor so that the agent of his death cannot fail to attack him. This is not too difficult a task because the person he "selects" to kill him are members of his own social group, and, like homicide in general, victim-precipitated homicide is an intragroup phenomenon.

From a psychoanalytic view, suicide is most often a form of displacement, that is, the desire to kill someone who has thwarted the individual is turned back on the individual himself. Expressed more technically, the suicide murders the introjected object and expiates guilt for wanting to murder the object. The ego is satisfied and the superego mollified through self-murder.[17] This is a useful and logically sound statement relative to the higher-status categories, which comprise the bulk of suicides. We are making a complementary extension of this thesis by contending that the suicide-prone, or victim-precipitated, homicide victim, is unable to displace so completely his desire to kill someone who has thwarted him. In the suicide-prone homicide victim, the object of murder is less introjected than in orthodox suicide. At times in the past he may have found himself on the borderline between killing the individual who stands in his way and permitting himself to be killed. In some cases he may actually kill in order to receive punishment and expiation at the hands of the authorities. In victim-precipitated homicide cases, the suicide-prone victim also achieves expiation

TABLE IV

Victim-Precipitated and Non-Victim-Precipitated Homicide, by Previous Assault Record

	Victim-precipitated homicide		Non-victim-precipitated homicide	
	Number	Per cent	Number	Per cent
Previous assault record	56	37.3	94	21.5
No previous assault record	94	62.7	344	78.5
Total	150	100.0	438	100.0

$\chi^2 = 14.31$; $P < 0.01$; $C = 0.15$.

from guilt for wanting to murder the object, but his superego does not demand self-murder for mollification.

Because, relative to the direct suicide, the suicide-prone victim of homicide has a weaker superego, a less fully introjected murder object, and a subconscious and diffused sense of guilt rather than a conscious and clearly defined guilt, because he is culturally and psychologically conditioned toward overt, other-oriented aggression patterns and seeks punishment in a way that is the most obviously acceptable to him, he therefore presents himself as a murderous, attacking aggressor to his ultimate assailant, who he knows will respond in like manner. After sufficient provocation the appropriate moment comes when the suicide-prone victim gives up the aggressive struggle and willingly offers himself for the slaying.

The individual who commits homicide and then inflicts death on himself (homicide-suicide) generally reflects a clear dichotomization of the two death wishes: desire to kill the object who is thwarting him, and desire to kill self because of his introjection of the murdered object and guilt for the prior and instant suffering he has caused. The orthodox suicide is an expression of total unity of these two impulses, whereas the suicide-prone homicide victim is a reflection of ambivalence, of less displacement, of subconscious guilt and desire for punishment directly from the offended, suffering object. He therefore commits suicide through this agent or object. His desires to murder and to be punished are both satisfied, for while becoming a homicide victim he simultaneously throws the burden of responsibility for his death on the assailant and continues the past pattern of causing suffering on the object of his murder desire. In one sense, he is somewhat like the homicide-suicide offender, for he too "takes the other person with him." The victim-precipitated homicide victim, however, performs this task without the stigma of being totally at fault, or totally destroying the other person, for the victim of homicide generally receives more sympathy and pity than the individual who commits suicide. Hence, although punishing himself and obtaining pity for his death, he continues to hurt his assailant because of the latter's legal and social responsibility for the slaying.

From the perspective of the lower socioeconomic class, suicide is probably viewed as a more feminine than masculine solution to problem situations. It is a passive act, an indication of defeat. Fenichel says that "frequently the passive thought of giving up any active fighting seems to express itself."[15] Although it may at first seem that becoming a willing victim of a homicide is also an expression of passivity, we must consider victim-precipitation relative to the alternative of orthodox suicide. If the direct suicide is in fact attacking an introjected object whom he wishes to kill, the object of his assault is unable to retaliate, so that the slaying is in a sense cowardly, unmanly. To launch the attack on another living, active, dynamic, and responding person who is sporting challenge to overtly expressed destructive impulses is conceived as a more masculine role for one bent on self-destruction. The victim-precipitated homicide victim may give up the struggle and willingly submit to the retaliation, but he has destroyed himself by engaging in an active fight. Studies in psychology and sociology point to the relationship between aggressive, direct expression of frustration and the lower socioeconomic class, particularly its male representatives. It has been suggested that many boys, to escape excessive female dominance and suspicions about their own

TABLE V

Mate Slayings Among Victim-Precipitated and Non-Victim-Precipitated Homicides, by Marital Status of Victim

	Victim-precipitated homicide		Non-victim-precipitated homicide	
	Number	Per cent	Number	Per cent
Husband	28	84.8	19	28.4
Wife	5	15.2	48	71.6
Total	33	100.0	67	100.0

$\chi^2 = 30.77$; $P < 0.001$; $C = 0.49$.

masculinity, consider lawfulness and femininity synonymous traits because the primary source of socialization, or development of the superego, has come from females, especially the mother. To engage in behavior that is antisocial, that involves physical violence or aggression against others, is a means of asserting one's masculinity and of rejecting a feminine response.[18] Passivity, defeatism, suicide are signs of submission to the female role.

Using occupation as the best index of class status, we find that all persons—white and Negro—among the victim-precipitated homicide victims are members of the lower socioeconomic class. It is not unexpected, therefore, under the foregoing assumptions, that our data show a significant association between males and suicide-prone homicide victims. Males comprise 141, or 94 per cent, of the 150 victim-precipitated homicides, compared to 308, or only 70 per cent, of the 438 non-victim-precipitated homicide cases. It is also true, of course, that more males than females commit orthodox suicide, as revealed both in national statistics and in the Philadelphia data. During the five year period from 1948 to 1952, males comprised 684, or 77 per cent, of the 894 suicides in Philadelphia. However, orthodox suicide is largely committed by a combination of two higher-status categories, whites and males, whereas victim-precipitated homicide is related to a lower-status race (Negroes) and a higher-status sex (males).* The emphasis we have put upon the associations of lower class, overt physical aggression as a symbol of masculinity, and victim-precipitated homicide may in part explain the significantly higher proportion of Negro males who are victims in victim-precipitated homicides. Negro males comprise only 8 per cent of all orthodox suicides reported in Philadelphia during the five year period; they make up 50 per cent of the victims in non-victim-precipitated homicides, but as much as 74 per cent of the victim-precipitated homicides.

Homicide is an act that usually involves a victim and offender who have been in close interpersonal relationship. Under the assumption that a more intimate, close, daily inter-

* There is some doubt among students of race and social class about the relative status of Negro males and females.

personal relationship exists between husbands and wives than between persons of other types of relationships, we might expect a larger proportion of suicide-prone homicide victims (victim precipitated) than of ordinary victims of homicide (non-victim precipitated) to be slain by their mates.[19] Such is the case, for 22 per cent of the victim-precipitated homicides compared to 15 per cent of the non-victim-precipitated homicides are mate slayings, although the difference is not statistically significant. However, because males and victim-precipitated homicide victims were found to be significantly associated, we can expect that a significantly higher proportion of victim-precipitated slayings than of non-victim-precipitated slayings involve husbands slain by their wives. The data confirm the expectation, for among victims of victim-precipitated mate slayings, 85 per cent are husbands, but among victims of non-victim-precipitated mate slayings only 28 per cent are husbands. There is a similarity between the proportion of husbands slain in victim-precipitated homicides and of husbands involved in mate slayings that are homicide-suicides, for among the latter we have elsewhere noted that 10 husbands had killed their wives before committing suicide, but that only one wife killed herself after slaying her husband.[9] Perhaps we may assume, therefore, that the incidence of guilt, remorse, or both among husbands in both groups is similar; the only difference is that one set of husbands commits suicide directly and after having killed their wives, whereas the other set of husbands commits suicide indirectly by having their wives perform the act of inflicting death for them.

The fact that there is a significant association between suicide-prone homicide victims and husbands slain by their wives engenders the suggestion that this type of suicide subconsciously selects a parent image to be the agent of his death, and that under these circumstances the parent image is often that of mother. Orthodox suicide may be considered, says Fenichel, as an extreme act of rebellion or like "murder of the original objects whose incorporation created the superego . . . "[15] Not uncommonly the wife becomes a mother substitute for the male.[20] We might suspect this fact to be particularly true for Negro marital relationships because the Negro family is considered to be much more matriarchal than the white family.[21] Like the mother, the wife represents for the male the principal source of love and nurturance. If she is also the principal source of frustration, as Henry and Short suggest,[10] aggression of the male consequent to the frustration will be directed against the wife, or mother image.

Convergence of fact and theory from sociology and social psychology and from the victim-precipitated homicide data aid us in analyzing the underlying reason that an individual should seek punishment through indirect suicide. As we have indicated, there is evidence that modes of control and expression of aggression vary among the social classes. Lower-class adolescent boys, for example, appear more likely to be oriented to direct expression of aggression than are middle-class boys.[22] The type of punishment meted out by parents to misbehaving children is related to this class orientation towards aggression. Lower-class mothers report that they or their husbands are likely to strike their children or threaten to strike them, whereas middle-class mothers report that their type of punishment is psychological rather than physical. Boys who are punished physically express aggression more directly than those who are punished psychologically. Physical punishment clearly identifies the

punisher, and the relationship between parent and child, for the moment, is that of attacker and attacked. Psychological punishment creates a more subtle relationship, and it is often difficult for the son to tell where his hurt feelings are coming from. Their source is more likely to seem inside him than outside. If there is a target for aggression then, says Gold, the physically punished child, who is more likely to be lower class, has an external target readily available; the psychologically punished child does not have such a ready target. If he selects one, it is likely to be himself.[22]

Because all the victim-precipitated homicide victims in our data are from the lower socioeconomic class and hence are most likely oriented towards physical aggression, because previous episodes of assaultive behavior are common in their case histories, because there is often a subconsciously felt sense of guilt for past attacks they have made on others with whom they have maintained a close, intimate relationship, and because a significantly high proportion of the agents they "select" to perform the slaying for them is composed of females, particularly a wife who most probably constitutes a mother image, we contend that, in the final moment, then, the relationship between the victim-precipitated homicide victim and his slayer is much like the relationship between parent and child. As a physically punished child from the lower class the victim-precipitated homicide victim has a target for his aggressive impulses and is at the same time a ready target himself. Direct self-punishment through orthodox suicide is not within his mental purview because the parental and other authoritarian representations are not so thoroughly incorporated into his personality as is the case with the middle-class orthodox suicide. For the lower-class child, or the victim-precipitated homicide victim, authoritative restraint and direction come less from an internalized source than from an external one. To be punished means to be physically punished from outside self. Schilder notes that orthodox suicide is a form of self-punishment for aggressive behavior previously directed toward another (loved) person.[23] Victim-precipitated homicide victimization is also self-designed punishment for aggressive behavior directed toward another person. But punishment for the victim-precipitated homicide victim must come through the normally conceived channel of punishment, that is, through an external agent, and particularly one who is a parent image.

SUMMARY

The purpose of this study was to examine empirically the proposition that an individual may commit suicide by provoking another person to slay him. Of 588 criminal homicides in Philadelphia between 1948 and 1952, 150, or 26 per cent, were designated as victim-precipitated homicides, or cases in which the victim was the first to resort to physical aggression in the dual relationship of victim and offender. It was suggested that these victims are suicide-prone individuals. A variety of hypotheses were tested and confirmed by use of statistical data to which the chi square test of significance was applied, and the coefficient of mean square contingency was employed to determine the degree of association among sets of attributes. Compared to orthodox suicide, homicide-suicide, or non-victim-precipitated homicide, victims of victim-precipitated homicides are significantly associated with Negroes, males, previous arrest record, previous record of assaults against the person, mate

slayings, and a mate slaying involving a husband as victim. These data combine with evidence from psychology and psychiatry to suggest a profile of the victim-precipitated homicide victim as one who is a member of the lower socioeconomic class, who seeks to destroy himself because of a subconsciously felt guilt, who is oriented toward physical aggression and punishment from others, who has not introjected the murder object sufficiently to commit orthodox suicide, and whose slayer is significantly an intimate friend or spouse who functions as a parent image and dispenser of physical punishment through which the victim seeks to allay his guilt. Physical punishment from outside self rather than direct self-punishment is the conditioned orientation of the victim-precipitated homicide victim. Hence, he commits suicide indirectly by provoking another person to kill him.

RESUMEN

El propósito de este estudio fue el de analizar empíricamente la aseveración de que un individuo puede suicidarse provocando a otra persona para que le quite la vida. De los 588 casos de homicidio criminal registrados en Filadelfia entre 1948 y 1952, 150, o sea el 26 por ciento, fueron catalogados como homicidios precipitados por la víctima, es decir, casos en que la víctima fue la primera en recurrir a la agresión física en la relación mutua entre la víctima y el ofensor. Se sugiere que estas víctimas son individuos con tendencias suicidas. Se investigó una serie de hipótesis, confirmadas por datos estadísticos, en las cuales la calidad significativa se dedujo por medio de la aplicación de la prueba χ^2. Se empleó el coeficiente de cuadrados medios de causalidad para determinar el grado de asociación entre grupos de características. Comparando el suicidio genuino, el homicidio-suicidio y el homicidio no precipitado por la víctima, las víctimas de los homicidios precipitados por la víctima se hallan significativamente relacionadas con negros, individuos del sexo masculino, personas con detenciones policiales previas, sujetos con antecedentes de asalto a la persona, homicidas entre individuos que viven juntos, y homicidas entre compañeros en que el marido figura como víctima. Estas informaciones, combinadas con hechos evidentes derivados de la psicología y psiquiatría, permiten sugerir un perfil de la víctima del homicidio precipitado por ella como miembro de la clase social y económica baja, que busca destruirse a sí mismo porque se siente subconscientemente culpable, porque está orientado hacia la agresión física y al castigo impartido por otros, que no se ha inculcado a sí misma el objetivo del asesinato con suficiente fuerza para cometer el suicidio genuino y cuyo asesino es notoriamente un amigo íntimo o el cónyuge que actúa como la réplica paterna o materna que administra el castigo físico por medio del cual la víctima busca la atenuación de su culpa. El castigo físico emanado de fuera de sí mismo más que el autocastigo directo constituye la orientación condicionada de la víctima del homicidio precipitado por ella. De este modo, este individuo se suicida en forma indirecta al inducir a otra persona a quitarle la vida.

RESUME

L'objet de cette étude était d'examiner empiriquement la proposition qu'un individu peut se suicider en poussant une autre personne à le tuer. Sur 588 cas de meurtre qui se sont

produits à Philadelphie entre 1948 et 1952, cent cinquante, soit 26 pour cent, ont été classés comme homicides provoqués par la victime, ou comme cas dans lesquels la victime a été la première à recourir à l'attaque physique dans le double rôle de la victime et du coupable. On a avancé l'opinion que ces victimes sont des individus prédisposés au suicide. Diverses hypothèses ont été mises à l'épreuve et confirmées au moyen de données statistiques auxquelles le test chi-carré de signification avait été appliqué, et avec lesquelles on avait employé le coefficient de carré moyen de contingence pour déterminer le degré d'association parmi un ensemble de caractères. Lorsqu'on les compare aux suicides classiques, aux suicides-homicides, ou aux homicides non provoqués par la victime, les victimes des homicides provoqués par la victime sont d'une manière significative associées avec des nègres du sexe masculin, qui ont fait l'objet d'une arrestation antérieure, ont un casier judiciaire de voies de fait, de meurtre du conjoint, et de meurtre de conjoint dont la victime est un mari. Ces données se combinent avec les témoignages de la psychologie et de la psychiatrie pour permettre de tracer la silhouette de la victime de l'homicide provoqué par la victime: c'est un individu qui appartient à la classe économique et sociale inférieure, qui cherche à se détruire lui-même en raison d'un sentiment de culpabilité subconsciente, qui s'attend à être attaqué et puni physiquement par d'autres, qui n'a pas absorbé suffisamment l'objectif-meurtre pour en arriver au suicide classique, et dont le meurtrier, élément significatif, est son ami intime ou son conjoint qui représente l'image paternelle ou maternelle et le dispensateur du châtiment corporel par lequel la victime tente d'alléger sa culpabilité. L'orientation conditionnée de la victime d'un homicide provoqué par la victime le porte au châtiment venant de l'extérieur plutôt qu'à l'auto-châtiment direct. En conséquence, il se suicide indirectement en poussant une autre personne à le tuer.

REFERENCES

1. Bromberg, W.: A psychological study of murder, J. Psycho-Analysis *32*:1–2, 1951.
2. Bromberg, W.: Murder is seen as bizarre form of attempted suicide, Sc. News Letter *36*:377, 1939.
3. Pollack, B.: A study of the problem of suicide, Psychiatric Quart. *12*:305–330, 1938.
4. Tarde, G.: Penal Philosophy, Boston, Little, Brown & Co., 1912, p. 466.
5. Von Hentig, H.: The Criminal and His Victim, New Haven, Conn., Yale University Press, 1948, Chapter xii.
6. Wolfgang, M.: Patterns in Criminal Homicide, Philadelphia, University of Pennsylvania Press, 1958, p. 265.
7. Merton, R.: The bearing of empirical research upon the development of social theory, Am. Sociol. Rev. *13*:505–515, 1948.
8. Perkins, R.: The law of homicide, J. Crim. Law & Criminol. *36*:412–427, 1946.
9. Wolfgang, M.: An analysis of homicide-suicide, J. Clin. & Exper. Psychopathol. *19*:208–217, 1958.
10. Henry, A., and Short, J.: Suicide and Homicide, Glencoe, Ill., The Free Press, 1954, pp. 70–71, 75, 112.
11. Sainsbury, P.: Suicide in London, London, England, The Institute of Psychiatry, 1955.
12. Weiss, J.: Suicide: an epidemiologic analysis, Psychiatric Quart. *28*:225–252, 1954.
13. Freud, S.: Beyond the Pleasure Principle, London, Hogarth Press, 1922.
14. Menninger, K.: Man Against Himself, New York, Harcourt, Brace & Co., 1938, p. 24.
15. Fenichel, O.: The Psychoanalytic Theory of Neurosis, New York, W. W. Norton, 1945, p. 400.
16. Campion, D.: Philadelphia suicide data from unpublished material.
17. Simpson, G.: Methodological problems in determining the aetiology of suicide, Am. Sociol. Rev. *15*:658–663, 1950.

18. Cohen, A.: Delinquent Boys: The Culture of the Gang, Glencoe, Ill., The Free Press, 1955.
19. Wolfgang, M.: Husband-wife homicides, J. Social Therap. 2:263–271, 1958.
20. Strauss, A.: The influence of parent-images upon marital choice, Am. Sociol. Rev. 11:554–559, 1946
21. Frazier, E. F.: The Negro Family in the United States, Chicago, University of Chicago Press, 1939
22. Gold, M.: Suicide, homicide, and the socialization of aggression, Am. J. Sociol. 63:651–661, 1958.
23. Schilder, P.: Psychotherapy, New York, W. W. Norton, 1939

Latin American Society of Electroencephalography and Clinical Neurophysiology Incorporated

Owing to the expanding interest in electroencephalography and clinical neurophysiology, the South American Electroencephalography Society has incorporated as one of its members the Mexican Society of Electroencephalography. As a result, the South American Electroencephalography Society will henceforth be known as the Latin American Society of Electroencephalography and Clinical Neurophysiology. Its president is Dr. Carlos Villavicencio of Santiago, Chile, and its president-elect is Dr. Paulo Vaz de Arruda of São Paulo, Brazil. Dr. Abraham Mosovich of Buenos Aires, Argentina, has been elected honorary secretary. Enquiries should be addressed to Dr. Mosovich, C/O Instituto de Neurocirugia, Casilla 70 D, Santiago, Chile.

Insulin Hypoglycemia Therapy

The moderator, Dr. Max Rinkel, opened the discussion by suggesting topics for consideration, especially new topics that had not been discussed at the International Conference on the Insulin Treatment in Psychiatry in New York, October, 1958. One of these concerned the modification of the classical Sakel treatment by Dr. H. Peter Laqueur, of Creedmoor State Hospital in New York. Another involved a newly isolated chemical, glucagon, a protein molecule of high molecular weight, consisting of a straight chain of 29 amino acids with histidin at the N terminal. According to scientific evidence, it is secreted by the alpha cells of the pancreas. Although its effect is opposite to that of pure insulin, it is not an antagonist. It mobilizes glycogen in the liver, but not in the muscles. Glucagon is now being used experimentally in the termination of insulin coma. Another chemical, hexamethonium, also has been used experimentally in insulin treatment. It has been assumed that its synaptic blocking effect counteracts antiinsulin factors, and therefore much smaller doses of insulin may induce deep coma. Dr. Rinkel added, however, that the pharmaceutical company has discontinued its production because of the dangerous side effects that had been observed. The problem of criteria for insulin therapy was suggested for discussion, with particular emphasis on the question as to whether insulin therapy should be given as the last resort after all methods have failed or as the first treatment in selected cases. The integration of the insulin treatment in the total hospital program and the value of psychotherapy (individual, group, the patients' family) was also mentioned as a topic of discussion.

Dr. Laqueur presented an abstract of his paper (to be published) about his modification of the classical Sakel treatment, using multiple small doses that produce comas with a lower total amount of insulin and, more importantly, fewer afternoon reactions. A prerequisite of this method is the careful control of diet, which permits precise calculation of dosage and prevents weight gain. Gain in weight has commonly been thought of as an indication of improvement; with this method, clinical improvement has been observed without increased weight and the several practical problems involved due to weight gain (appearance, new clothes). Another advantage is economy; less insulin and a smaller crew are needed to produce results. The patients' ability to respond to psychotherapy during this insulin procedure, to participate in ward management problems, and to engage in therapeutically guided meetings with their families is a most essential part of this new

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Summary of a round table discussion, annual American Psychiatric Association meeting, Philadelphia, Pa., April 30, 1959. The moderator was Max Rinkel, M.D., F.A.P.A., Massachusetts Mental Health Center, Boston, Mass. The panel consisted of the following: Andrew K. Bernath, M.D., Karl M. Bowman, M.D., L.F., Karl T. Dussik, M.D., Alexander Gralnick, M.D., F.A.P.A., Harry Grauer, M.D., Simon Kwalwasser, M.D., F.A.P.A., H. Peter Laqueur, M.D., Francis J. O'Neill, M.D., F.A.P.A., Raymond W. Waggoner, M.D., F.A.P.A.

treatment. With this method, the integration of the insulin treatment into the total hospital program is facilitated.

Dr. Karl T. Dussik, from his own experience with the use of multiple doses, which preserved apparently the essentials of Sakel's treatment and is presently compared with the classical and the Shurley-Bond technique at his unit, said: "So far we certainly feel that it merits careful consideration, and probably will bring progress." He made an earnest plea for the presentation of more papers as one means of keeping all insulin workers in touch with current developments in their field of research. In discussing ataraxics, although he praised their usefulness, he reported: "More and more evidence suggests that insulin treatment is superior in regard to the quality and duration of the therapeutic results, if done well." He added that insulin therapy has "stood up over decades and will keep its place in time to come and promises fascinating future developments." A survey recently performed by the Insulin Treatment Teaching and Research Division at the Metropolitan State Hospital in Waltham, Mass., showed that at present more than 90 insulin units are in active operation in the United States and Canada. Several hospitals are preparing new insulin units.

Dr. Andrew K. Bernath quoted the criteria of the adequate insulin treatment from a personal communication from Dr. Sakel: "It should be individualized. It should be intensive as far as the depth of coma and the duration of time is concerned. It should be economical as far as the insulin and the personnel is concerned." Dr. Bernath felt that Dr. Laqueur's modification meets these criteria. He commented, "The simplicity of Dr. Laqueur's method impresses me. We know very well that, in different phases of medical endeavor, the booster principle has been used widely, and somehow with insulin it did not work. Now it works." The hope was expressed "that this method may bring us closer to the combination of day hospital and outpatient insulin treatment; it will be possible to start the treatment early in the morning, discharge the patient in the afternoon without running the risk of secondary comas, and he can return the next morning after spending the night with his family."

Apropos of the phrase "booster principle," Dr. Rinkel brought up the topic of hexamethonium, which could perhaps be called a booster in that Dr. Arnold believes it counteracts the antiinsulin effect by blocking the synapses.

Dr. Dussik reported he was unable to confirm the results achieved by Dr. O. H. Arnold, who used Depressin (a trade name in Austria for hexamethonium), but thought it possible that they had not been using the same preparation. He has, however, discontinued the use of hexamethonium.

Dr. Rinkel pointed out that the difficulty of determining whether the preparations were the same arose largely from Dr. Arnold's use of the trade name. He stressed the importance, especially in international communications, of the use of the chemical designation instead of the trade name of a drug.

Dr. Karl M. Bowman emphasized the fact that we are passing from the stage of considering insulin as the total treatment into the era of combining all useful types of treatment as an integrated whole of which insulin is an important part. Usually residents are unwilling to do intensive psychotherapy with patients under insulin treatment. They

feel that they cannot do psychotherapy while the patient is getting insulin, that if they are good enough psychiatrists they can cure everything by psychotherapy, and that to resort to insulin, drugs, or electroshock or other physical therapy is to confess their own inadequacy. Dr. Bowman emphasized that treatment must be individualized in each case. Insulin should be used as indicated but combined with other therapies. Psychotherapy should always be used, as well as such other standard therapies as occupational, recreational, and milieu therapies and the like. Thus it should be made clear that insulin alone is not recommended in the treatment of schizophrenia but insulin as one necessary, important part of the treatment.

Dr. Ivan F. Bennett gave a brief account of glucagon, in which he reported that it is secreted in the pancreas by the alpha cells, whereas the beta cells secrete insulin. The mechanism of action of this material is upon the glycogen in the liver, not upon the glycogen in the muscles. It enables the body to break down liver glycogen into glucose by activating an enzyme system, normally in the liver, involved in this process. The release of glucose from the liver is not influenced by the presence of insulin because insulin does not act directly upon this enzyme system. This explains the success of glucagon in the treatment of insulin hypoglycemia. With a dose of 0.25 to 4 mg. the insulin coma can be terminated within 5 to 15 minutes. The blood sugar is elevated from 5 to about 33 mg., which is sufficient for the patient to awaken to take food by mouth without gavage or the use of intravenous glucose. An advantage of glucagon is that it can be given intravenously (one investigator has found this to be 99 per cent effective in arousing the patient from coma), intramuscularly (86 per cent effective), or subcutaneously (73 per cent effective). Glucagon is now being investigated to determine its use in the treatment of inadvertent insulin shock or in diabetic patients and, in psychiatry, in the termination of insulin coma therapy.

Dr. Albert A. Kurland mentioned, as another practical advantage of glucagon, the ease with which it can be injected.

Dr. Dussik agreed as to the practical value of glucagon, adding that his experience proved glucagon very useful during insulin coma therapy. An intramuscular injection of 1 to 2 mg. can bring patients out of deep hypoglycemia so that they can drink sugar solution. This increases the safety and practicality of insulin coma therapy and significantly eases the management of emergencies.

Dr. Wallace Hunter stated: "We have a fairly large series, and I can only confirm the very, very useful nature of this product. It is wonderful. It is just as effective in taking people out of a secondary reaction as it is to terminate the primary coma." He went on to say that, since the action of glucagon is not very extended, and since its action depletes liver glycogen, it is necessary to replace the glycogen.

Dr. Bennett remarked that a greater sensitivity to glucagon at the end of the insulin treatment has been observed, and that this has been interpreted as implying that the liver glycogen is increased rather than depleted during treatments.

Dr. Laqueur briefly mentioned the financial considerations that lead to preference of glucagon over glucose.

Dr. Alexander Gralnick said "that if we give sufficient emphasis and not just lip service

to the importance of the psychotherapeutic aspects, to the importance of the psychodynamics, and to the importance now of the therapeutic community" we will perhaps learn something more about the personality types, the nature, of the people who respond to insulin treatment and the insulin situation. The observation that, in any treatment of schizophrenia, the shorter the duration the better the results obtained may finally be understood if we pay more attention to the individual patient who responds to that treatment situation.

Dr. Rinkel pointed out that it is almost impossible to avoid contamination of experiments in psychopathology. To have a group of patients who receive only insulin and a group that does not receive insulin, but only psychotherapy, would contravene the doctor's goal of helping his patients to the best of his ability.

Dr. Francis H. Sleeper corroborated Dr. Rinkel's remarks with the comment that "even in research you cannot avoid contamination of your controls, because a simple little thing like a kind word from the attendant makes a difference."

Dr. Laqueur elaborated on Dr. Gralnick's thesis by pointing out that "a therapeutic community reflects the personality of the leader, and if the leader, for instance, shows a little boredom when somebody talks about sex, automatically the therapeutic community is a little hesitant to talk about sex. Or when the leader shows interest in problems of life, death, or religion the whole community goes in this direction and talks about this subject."

Dr. Raymond W. Waggoner reported, from psychiatrists' replies to his questions, several reasons for the discontinuance of insulin therapy in a number of Michigan hospitals (use of various ataractic agents, shortage of personnel, change in diagnostic types of patients admitted, and other reasons). He then expressed his concern about the diagnosis of patients in the reporting of results from various forms of therapy, particularly the diagnosis of schizophrenia, because he felt that some of the good results reported seem to be based on patients who were not schizophrenic at all but who had schizophrenic-like symptoms. In our present research in schizophrenia, "we have found a fraction of nucleotide in much different concentration in the serum of schizophrenics than in that of nonschizophrenics, which we believe may make it possible to diagnose schizophrenia chemically." He then asked Dr. Laqueur whether the multiple dose technique might give better results in subcoma treatment than the slightly larger dose now in use.

Dr. Laqueur replied that a multiple dose technique is very sensitive and can be adapted in such minimal ranges that it might be satisfactory in subcoma treatment.

Dr. Rinkel asked Dr. Waggoner the following specific questions: "What is the basic concept of schizophrenia that stimulates the search for a chemical diagnosis? Is schizophrenia to be conceived of as a somatic disease that leads to a deviation of behavior, or are the schizophrenias to be conceived primarily as a deviation of behavior resulting, secondarily, in somatic (chemical) alterations?"

Dr. Waggoner stated that their study (under the supervision of Dr. Ralph Gerard) primarily involved chronic schizophrenics who had been diagnosed by a series of different psychiatrists. He also called attention to the fact that only a few years ago general paresis was spoken of in the same terms as schizophrenia is now.

Dr. Rinkel agreed and reaffirmed his belief in the chemical concept of mental illnesses.

Dr. Francis J. O'Neill reported that the recent statistics from Central Islip State Hospital are quite similar to the ones obtained 20 years ago. He stated that he knew of no other treatment modality that will give the same results in this particularly highly selected group of patients as insulin does. He mentioned a paper by Dr. M. Schatner, published in 1936, a very scholarly treatise on the psychological aspects of insulin coma therapy.

Mr. Daniel Mendelsohn referred to Dr. J. C. Whitehorn's article of 1957 in which "the overall findings suggest that patients who improve show a lesser quality of improvement when treated by insulin combined with psychotherapy than by psychotherapy alone." He cited his own extremely discouraging statistics of a one year follow-up study at Spring Grove Hospital and concluded that, "if you give no treatment whatsoever and leave the patient alone, you will get equally good results."

Dr. Rinkel questioned Mr. Mendelsohn's interpretation of Dr. Whitehorn's paper by saying that he understood that Dr. Whitehorn stated that only the results of the psychotherapeutically ineffective therapist were enhanced by insulin treatment, whereas the effective psychotherapist did not need to use insulin treatment.

Mr. Mendelsohn answered that possibly that was what Dr. Whitehorn stated.

Dr. Simon Kwalwasser reported many more favorable statistics and brought up the question as to whether prolonged comas (observed in rare accidental occurrence) did not produce even better results. He compared this idea with the observation that patients in electroshock treatment who have shown organic changes in the electroencephalogram have done better than those who have shown no such changes. He went on to say that psychotherapy is not merely talking to a patient, that a relationship such as develops from a patient's going into and coming out of coma in the presence of his doctor provides in itself a psychotherapeutic situation. He concluded his remarks by saying, "I think that, if we are going to use insulin, we ought to do more research so that we can determine what we are really doing and compare it with other modalities."

Dr. Gralnick said: "I am a firm believer in the value of insulin therapy. I only make a plea for a continuing scientific approach so that we can know more certainly what all the important factors are."

Dr. Harry Grauer spoke of the use of subcoma insulin in the treatment of anxiety states, reactive depression, schizoid personalities, and some "borderline states." "The treatment is relatively structured. The patient remains in bed while he is in the hypoglycemic state. He is assigned to a special room where this treatment is given. The structured method helps the nurses relate to the patient, and a certain group milieu is fostered. The treatment is used in conjunction with psychoanalytically oriented psychotherapy. A 5- and 10-year follow-up study recently done here [Montreal] indicates that subcoma insulin used in conjunction with psychotherapy can produce very gratifying results, and definitely has a place in psychiatric therapy."

Dr. Rinkel closed the meeting by saying: "This round table discussion, although not solving all the problems of insulin treatment, has certainly provided new stimulus and new ideas for research. The multiple dose technique shows promise, and the discovery of gluca-

gon appears to be a valuable new addition to insulin therapy. Greater attention to the psychodynamic aspects of this treatment will no doubt give us more insight into our patients."

QUARTERLY REVIEW OF PSYCHIATRY AND NEUROLOGY

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Incorporating the International Record of Psychiatry and Neurology

INCORPORATING INTERNATIONAL RECORD OF PSYCHIATRY AND NEUROLOGY

FOREWORD

The purpose of the QUARTERLY REVIEW OF PSYCHIATRY AND NEUROLOGY is to present promptly brief abstracts, noncritical in character, of the more significant articles in the periodical medical literature of Europe and the Americas.

For readier reference, the abstracts are classified under the following general headings:

PSYCHIATRY

1. Administrative Psychiatry and Legal Aspects of Psychiatry
2. Alcoholism and Drug Addiction
3. Biochemical, Endocrinologic, and Metabolic Aspects
4. Clinical Psychiatry
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11. Psychoanalysis
12. Psychologic Methods
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14. Treatment
    a. *General Psychiatric Therapy*
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1. Clinical Neurology
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9. Infectious and Toxic Diseases of the Nervous System
10. Intracranial Tumors
11. Neuropathology
12. Neuroradiology
13. Syphilis of the Nervous System
14. Treatment
15. Book Reviews
16. Notes and Announcements

In fields which are developing as rapidly as are psychiatry and neurology, it is obviously impossible to abstract *all* the articles published—nor would that be desirable, since some of them are of very limited interest or ephemeral in character. The Editorial Board endeavors to select those which appear to make a substantial contribution to psychiatric and neurologic knowledge and which promise to be of some general interest to the readers of the REVIEW. Some articles, highly specialized in character, or concerning a subject already dealt with in an abstract, may be referred to by title only at the end of the respective sections.

A section entitled INTERNATIONAL RECORD OF PSYCHIATRY AND NEUROLOGY is included at the beginning of the journal. The Record Section consists of advanced clinical and experimental reports.

The Psychiatry and Neurology Newsletter was compiled by Dr. Peter A. Angelos.

The Editorial Board at all times welcomes the suggestions and criticisms of the readers of the REVIEW.

WINFRED OVERHOLSER, M.D.
Editor-in-Chief

QUARTERLY REVIEW OF PSYCHIATRY AND NEUROLOGY

The Place of Social Work in the Treatment of the Hospitalized Mental Patient

*Sarah F. Schroeder**

WASHINGTON, D. C.

The relationship between psychiatry, medicine, and social work is so widely accepted today that it is difficult to remember that it developed relatively slowly. The views expressed by Dr. James Jackson Putnam in 1899, when he delivered a Shattuck Lecture entitled "Not the Disease Only, but Also the Man," and in 1908 in an article on the treatment of "psychasthenia" from the standpoint of the social consciousness, were not ordinary for that period, particularly when he said: "It is in each man's social relations that his mental history is mainly written, and it is in his social relations likewise that the causes of the disorders that threaten his happiness and his effectiveness and the means for securing his recovery are to be mainly sought."[1]

Dr. Richard C. Cabot's reasons for appointing a social worker to the Massachusetts General Hospital in 1905 were another example of advanced thinking. He wrote that she was "to cooperate with me and the other physicians in the dispensary, first in deepening and broadening our comprehensions of the patients and so improving our diagnoses, and second in helping to meet their needs, economic, mental, or moral, either by her own efforts, or through calling to her aid the group of allies already organized in the city for the relief of the unfortunate wherever found."[2]

In 1917, when *Social Diagnosis*, the first comprehensive book on generic social work, was published, its author, too, wrote of considering the "whole man" rather than "general classifications," saying that "the mind of man . . . can be described as the sum of his relationships." She emphasized, however, the slowness with which this way of thinking was being accepted.[3]

By 1936, W. A. White, in discussing the influence of psychiatry on other disciplines, says: ". . . it seems to me that psychiatry, without probably any such conscious objective, is working slowly and definitely and surely in the direction of the modification of medical

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thought . . . so that an entirely different medical mind is slowly being born, one capable probably for the first time of seeing, at least rationally, as opposed to intuitively, the organism in all its significant meanings unfolding itself at all its levels of activity, in relation to itself and in relation to the rest of the world, a concept which has advanced us a long way from the days of concrete disease entities. . . . No longer are the circumscribed observations of the internist, of the clinical pathologist, or the specialized training of the general nurse or even the social worker adequate. . . ."[4]

Later (in 1954), Simmons and Wolff describe a further development. They say: "Advances made in public health, psychiatry, psychoanalysis, social work and social sciences have given rise to a new concept of comprehensive (in contrast to specialized) medical care, which is modifying the former definitions and objectives of scientific medicine. . . . Integration of the social disciplines with medicine, however, has necessarily been slow to evolve. . . . It was probably the social worker, with her knack and skill in dealing with concrete personal problems in social context, who first attracted the attention of the physician because of her ability to place at his disposal much of the useful social data. . . . It is perhaps in the study of the personal and social components of illness that the integration of psychosocial and biophysical theories around the problems of the individual is offered the greatest challenge. Here the varied approaches for both research and application are brought into alignment to provide a broader basis for diagnosis and a more comprehensive foundation for programs of prevention, therapy, and rehabilitation."[5]

It is in this frame of reference that the social worker of today works. In addition to training in generic social work, she must be sufficiently well informed about psychiatry and social science to adjust her method to the particular needs of her patient. This is particularly true of the social worker who works with patients in the mental hospital.

SOCIAL WORK IN THE MENTAL HOSPITAL

The goal of treatment of the patient who has been ill enough to need care in a hospital for mental illness is to improve him to the point where he can return to life in the community. It is therefore advisable to release him on trial as soon as possible, in order to prevent development of dependency on the protectiveness he received in the hospital at the height of his illness and to encourage further improvement in familiar surroundings, where the ties he values can support and strengthen him. Because of the nature of the illness that affected his adjustment in the first place, the patient still needs continued treatment from the hospital. It is at this point that the social worker undertakes responsibility for helping him.

When a request is received from the psychiatrist for assistance in releasing a patient, the social worker makes a study of the patient's social situation, getting to know him, and approaching him with warmth to give him confidence and to enable her to work with him. She listens to what he has to say about his feelings, his relatives, his needs, and his plans, carefully questioning to learn his wishes and potentialities in connection with his concrete situation, and guided by the referral. Respecting his person and his rights, she guards his

confidences, since he may not care to have his affairs discussed. This not only tends to strengthen the relationship of confidence between them, it also helps to leave the direction of his life in his own hands. (There may, however, be qualifications to this where the protection of the public, including the patient's relatives becomes necessary.)

She works with him on aspects of his home life and relationships and factors in the community at large, as he becomes able to see the need, and where she feels she can be of assistance. Her attitude is one of support, when needed, and of encouragement to talk, in order that she may help the patient bring out different points of view about his situation and lessen feelings of stress. She gives more positive guidance in the presence of an incapacitating immaturity. She can, with great care and when it is appropriate, provide an awareness of the significance and meaning of the circumstances in which he is involved.

The following case histories demonstrate the improvement of understanding in mental patients through social work.

Case 1. The husband of a young patient who had been released from the hospital had periodic alcoholic bouts that upset her to such a degree that they threatened to renew her need for hospitalization. After the social worker had worked with her at home for several months, the patient asked the reason for her husband's drinking. The question showed insight into the possibility that the drinking was more than willful. It also showed that the patient probably was able to accept a realistic answer and to make positive use of it. This turned out to be true. The patient was told that her husband's trouble might be similar to the one that caused her own depression. (The social worker had reason to believe that each of them had a dependency need that they might unconsciously have expected their marriage to fulfill, though the patient was not told this.) The patient then showed strength and, instead of going into a tail spin at each of the alcoholic episodes, assumed a maternal attitude toward her husband and was able to handle these periods on a mature level.

Case 2. This patient was a young married woman whose circumstances at home, prior to admission to the hospital, were exceedingly unfavorable. She was an immature person herself and had married an immature man. Perhaps because she knew she was illegitimate she felt that her mother had no affection for her and felt knocked around. She herself had three children, and the quarters in the relatives' home where she lived were so crowded that she, her husband, and her children lived in one room, with her 4 year old son sleeping in the same bed with her and her husband. Since the patient put great stock in a better standard of living, and since she found adequacy in improving her conditions, she preferred working outside the home and got satisfaction out of being a good secretary, which she was. This, however, made for conflict between herself and her husband, who constantly nagged her for not doing more housework. At the time of the birth of her second child, she had an acute catatonic episode and was hospitalized her husband and his mother caring for the children. After recovery she returned home. She became pregnant with her third child, had a recurrence of her illness, and returned to the hospital.

When again improved she was referred to social service. The question arose as to whether the new baby should be sent to a foster home, since the patient rejected the baby so strongly that she could not bear to touch him. It was decided instead to call in a homemaker from the homemaker service. Gradually the attitude of the patient to the baby modified under the careful and gentle care given to all the family by the homemaker. At the same time, the social worker continued her relationship with both the patient and her husband and supervised the homemaker and the public health nurse who had been asked to come in to help with the new baby, which was delicate. Through the joint effort of the social worker and the homemaker, a house was obtained in a public housing project so that the family would have a larger and better place in which to live. After this, the patient gradually relaxed and began to accept some responsibility in her home. At perhaps a crucial point the homemaker broke her wrist. Instead of collapsing, the patient rose to the occasion and took on more responsibility, increasing the load as time passed.

During all this time the patient went to the hospital clinic regularly to see the psychiatrist, and her husband went weekly to see the social worker. In addition to seeing the psychiatrist, the patient was a member of a group of patients and relatives who met with the social worker at the hospital. The patient became the "star" on those occasions and was able to convey her earlier views to these others. The husband in his interviews with the social worker at first continued to be very critical of his wife. Gradually he became able to help her appropriately with her housework without taking it away from her or feeling put upon. Taking on more and more the role of the head of the house with its heavy burden, the patient kept in her mind (as a way out) the idea that she would eventually return to her secretarial job. However, she came almost to enjoy her life with the family and sharing mutual interests with the other mothers in the housing project. She even asked her mother-in-law, with whom she formerly had never been able to get on, to dinner. The mother-in-law, in turn, could hardly get over the change in the patient.

The psychiatrist believes the patient has made a real change in her attitude through the help she has received. She is expected to be discharged from her status of being on visit from the hospital soon, and the psychiatrist believes it unlikely that she will have another episode.

Case 3. The patient, a single woman in her forties with a diagnosis of schizophrenic reaction, had been in the hospital nine years. Prior to her admission to the hospital, she had worked for the government for about seven years. She had lived at home, before admission, with her father (whom she described as "queer," "keeping the blinds of the house down all day"), who was senile, her mother, who was a diabetic, a brother, who was alcoholic, and a sister, who was a borderline psychotic. This family understood the patient's illness so little that when she became incontinent and deteriorated they kept her in the cellar. Several years after admission to the hospital, she began to improve. Her improvement was greatly accelerated by treatment with the new drugs, and as a result she was considered well enough to try living outside the hospital.

She was referred to social service, and the social worker assigned to her case worked with her both before and after she left the hospital. After interviews with the parents and sister, the social worker decided that they would not be able to accept the patient, that they were critical, hostile, and undoubtedly would not respond to casework. Both parents finally died prior to the patient's leaving the hospital. Their house was left to the sister, who could not have the patient live there because of her own "nervousness."

The situation was hard for the patient to accept since it had always been hard for her to accept people as they are. Through the weekly interviews with the social worker, this particular inability of the patient was brought into the open and she was able to change enough to understand the situation and finally to accept it. She became friendly with her sister and was able to see her without friction. In addition, her own self-confidence was built up through the assistance of the vocational rehabilitation worker. She took courses in a secretarial school and performed some "made work," which was, however, useful, in cooperation with a government department in the city. She continued this noncompetitive work while she was living in the hospital. After she had proved her ability in this way, she obtained a regular job in another government department. She then moved out of the hospital into a nonsupervisory boarding house. After a trial period of seven months on visit from the hospital, she was discharged.

SUMMARY AND CONCLUSIONS

During the past half century the psychiatric and social sciences have developed greatly; the knowledge derived from them has, in turn, drastically influenced the methods and extended the field of social work. Though from the beginning the social worker recognized the environmental needs of the patient, she has become, through application of the sciences, increasingly aware of the importance of other factors that affect his welfare. Thus it has become the function of the social worker to apply to the patient's concrete personal and social problems knowledge gained from other disciplines to improve her casework in the treatment of the mental patient. As advances in psychiatric and social sciences continue,

she will have the opportunity to contribute useful data to these sciences from her daily work and to continue to better her own services.

REFERENCES

1. Putnam, J. J.: The treatment of psychasthenia from the standpoint of social consciousness, Am. J. M. Sc. *135*:77, Jan., 1908.
2. Cabot, R. C.: Social Work, Cambridge, Mass., Houghton Mifflin Co., 1919, p. xxv.
3. Richmond, M. E.: Social Diagnosis, New York, Russell Sage Foundation, 1917.
4. White, W. A.: Twentieth Century Psychiatry, New York, W. W. Norton & Co., 1936.
5. Simmons, L. W., and Wolff, H. G.: Social Science in Medicine, New York, Russell Sage Foundation, 1954.

ABSTRACTS

psychiatry

ADMINISTRATIVE PSYCHIATRY AND LEGAL ASPECTS OF PSYCHIATRY

139. *The Psychopath and the Mental Health Bill.* MAXWELL JONES, FERGUS STALLARD, ISOBEL H. HUNTER, AND RONALD A BROOKES, Surrey, England. Lancet *1*:566–568, March 14, 1959.

The authors deduce that the bill is intended to provide compulsory treatment for the inadequate type of psychopath as well as the dangerous criminal one. Problems arising from compulsion on the grounds of abnormal behavior are discussed. It is felt that a therapist who has deprived an antisocial patient of his liberty by certification will be at a disadvantage in treating but that if adequate facilities were created only a small minority of psychopaths might need to be compelled to accept treatment and that compulsion will be most useful from courts or prisons. Under the bill, psychiatric hospitals will be able to refuse patients admission, and the authors subscribe to the view that the ordinary mental hospital ward is an undesirable setting for the psychopath unless group treatment is available. They would prefer to see small self-contained pilot units (both closed and open) established for treating psychopaths. Problems arising from siting these separately and alongside a parent mental hospital are discussed. Staff difficulties could be met with advantage, it is suggested, by using trainees in the social sciences as nurses. A description is given of the community treatment methods at Belmont, which allow of active patient participation in psychotherapy and administration with the aim of helping the psychopath to appreciate the effects of his behavior on others. Emphasis is put on staff needs for support and training and a high staff-patient ratio because of the heavy demands on them for toleration and understanding. Six to nine months' continuous training is considered essential. The need for research and for diagnostic centers (not mentioned in the bill) is stressed. Various patterns of treatment tried by different regional hospital boards would make control studies possible, but in view of limited resources one or two carefully planned pilot treatment and diagnostic centers administered by the Ministry of Health or a research organization might be the best first step, it is thought. Without adequate staffing, it would be best not to tackle treatment at all. Selective aftercare is also felt to be vital.—*Author's abstract.*

140. *The Psychiatric Treatment of Habitual Criminals.* J. K. W. MORRICE, Melrose, United Kingdom. Brit. J. Delinq. *10*:14, July, 1959.

The author reports on his experience as visiting psychiatrist to a Scottish prison. He is convinced of the value and necessity of psychiatric treatment of habitual criminals at two levels: (1) Short-term use of physical methods or psychotherapy for such disorders as anxiety states or depressions, and (2) longer term methods such as group psychotherapy directed towards the alteration of character and criminal attitudes.

141. *Psychiatric Day Hospitals.* M. CRAFT, Newark, Notts, United Kingdom. Am. J. Psychiat. *116*:251, Sept., 1959.

The literature on psychiatric day hospitals is reviewed, and an account is given of day hospital practice in England in 1956 with respect to types of patients treated and treatment employed. It was found that day hospitals were treating a wide variety of mental illnesses, and that those treatments commonly employed in mental hospitals could also be used in day hospitals.

BIOCHEMICAL, ENDOCRINOLOGIC, AND METABOLIC ASPECTS

142. *Criteria for the Selection of a Small Group of Chronic Schizophrenic Subjects for Biological Studies.* S. PERLIN AND A. R. LEE, Stanford, Calif., and Bethesda, Md. Am. J. Psychiat. *116*:231, Sept., 1959.

The method of selection of a small group of schizophrenic subjects for long-term biological studies is an essential part of the research. In developing criteria the following concepts are considered: (1) Range of variation of irrelevant variables, (2) random sampling, nonpurposive bias, and purposive bias, (3) extension of the sample and intensification of pertinent characteristics of patients through the process of selection and evaluation. Variables presumably irrelevant to schizophrenia are restricted, e.g., age, sex, race, length of hospitalization, and complications of hospitalization and treatment. The acceptance of limitations inherent in a chronic schizophrenic sample presupposes that schizophrenia is a reflection of an ongoing psychophysiological process (which, however, may appear only under certain operant conditions). The need for the study of acute schizophrenic and other samples is stressed. An operational framework for biological versus psychological factors in schizophrenia is considered; the assumptions involved are tabulated. The working hypothesis assumes that there is a group of schizophrenias. Within this framework, process schizophrenics, catatonic and hebephrenic subtypes, and twins concordant or discordant as to schizophrenia are discussed as means for sample bias.

A genetic-familial design is presented as the basis for a biased sample. It was decided that the widest sampling of genetic causes would be achieved if one fourth of the sample had a family history suggesting dominance, one fourth a history suggesting recessiveness, and one half a negative family history. The patients with negative family history would be more likely to include an uncommon genetic type and also would render less likely the exclusion of the very group for which selection bias is intended. The minimal conditions are as follows: (1) family history group, the dominant pattern (one schizophrenic parent),

(2) family history group, the recessive pattern (neither parent affected but with at least one affected sibling), (3) negative family history group (no history of schizophrenia within the family unit). The decreasing number of subjects available from a patient population of 13,500 in three collaborating hospitals is noted as the following additional criteria are imposed: diagnosis of schizophrenia, male, white, age range 18 to 40, duration of hospitalization of more than one year and less than 15 years, and familial pattern. A comparison of family history and negative family history groups with the initial criteria for selection is made; data referring to the first 14 admissions are presented.—*Author's abstract.*

CLINICAL PSYCHIATRY

143. *Clinical Trial of Promazine Hydrochloride and Acetylpromazine in Chronic Schizophrenic Patients.* R. URQUHART AND A. D. FORREST, Edinburgh, Scotland. J. Ment. Sc. *105*:260–264, Jan., 1959.

Authors describe a sequential trial of two phenothiazine derivatives in 40 chronic male schizophrenic subjects. The new drugs were compared with a placebo and also with reserpine and chlorpromazine, neuroleptics of proved value. The importance of the trial was to establish whether transfer of patients to these newer phenothiazines would be justifiable and also to seek an answer to the larger question, namely, whether more drugs or more psychotherapy would be of greater value to these patients. The results showed quite clearly that promazine hydrochloride and acetylpromazine in the dosage used were not as effective as reserpine or chlorpromazine. The trial also demonstrated that the administration of placebo tablets reinforced by weekly interviews with the psychiatrist was more potent therapeutically than any of the drugs used in the trial. 17 references. 3 tables.—*Author's abstract.*

144. *Recent Advances in the Psychiatric Diagnosis and Treatment of Phobias.* EVELYN PARKER IVEY, Morristown, N. J. Am. J. Psychotherapy *13*(1):35–50, Jan., 1959.

This article reviews the most important factors in the diagnosis and treatment of phobias. It is documented by references to the literature and illustrations from the case material of the author. The author feels that accurate diagnosis of the patient with phobias includes the understanding of this defense mechanism in its relation to other attempts at adaptation by the individual. Successful treatment requires re-education, desensitization, and desymbolization of the fear through psychoanalytic exploration. The steps in the effective treatment of phobias are detailed and with emphasis on the work of Gutheil. The nature, structure, psychologic roots, and purposes of phobias are described. These are accompanied by charts and figures indicating that a given phobia may symbolize different dynamic principles at different times within one individual as well as varying from patient to patient.

The phobia represents the projection of an internal conflict to an object or situation in the outside world. In this way, the patient transforms an internal threat of which he is unaware, to an outside danger, which he can perceive and against which he tries to protect himself. The outside object then becomes the symbol of inner, unrecognized conflict. In treatment the patient is helped to understand the unrealistic nature of his fear. His cooperation embodies his willingness to expose himself to the externalized danger while the dynamics of the underlying conflicts are being explored to relieve the basic problem. The

author cautions that physicians, through the use of reassurance and special medications without psychodynamic exploration, may inadvertently delay the patient's seeking help of a more curative nature at a time when therapy might be most effective.

145. *Personality Disorder and Dullness.* MICHAEL CRAFT, Newark, Notts, England. Lancet *1*:856–858, April 25, 1959.

The paper reports a study of the significance of adverse childhood influences in the development of personality disorder and dullness. Fifty mental defectives from a county hospital who, because of their extreme violence, emotional instability, or other psychopathic features, had to be transferred to the English governmental hospital for defectives of dangerous or violent propensities, are compared with the next consecutive admission of 50, which was watched for relevant variables. The first group were considered psychopaths and the second group ordinary defectives admitted for training. Both groups ranged in I.Q. up to and including normal range. Thirty-four psychopaths suffered parental deprivation of one or both parents for at least four years before the age of 11 compared with 10 controls ($p < 0.001$). Twenty-two psychopaths suffered childhood neglect compared with 8 controls. Thirty-five psychopaths compared with 18 controls (0.01, $p < 0.001$) suffered from two or more defined adverse influences in childhood. As regards intellectual dullness, 12 psychopaths and 22 controls had been tested in different years by university psychologists with the pair of Stanford-Binet or Wechsler tests. Over an average 4.9 years, the psychopaths gained an average of 11.8 I.Q. points, whereas over 5.0 years the controls gained an average of 1.4 points. In terms of community success, a follow-up 13.1 years after admission showed that 9 psychopaths were discharged and holding employment compared with 27 controls. The author concludes that initial I.Q. tests are likely to be an underestimate of a psychopath's later ability, and that treatment of psychopaths is demonstrably successful with a minority. 9 references. 1 table.—*Author's abstract.*

146. *A Contribution to the Methodology of Clinical Appraisal of Drug Action.* E. C. KAST AND J. LOESCH, Chicago, Ill. Psychosom. Med. *21*:228, May-June, 1959.

This study is concerned with the influence of the medical environment on drug action. The authors separated the pharmacologic action of a sedative and antispasmodic (meprobamate and tridihexethyl iodide) from the medicinal transactional phenomenon (MTP). They defined MTP as consisting of the powerful interaction between the patient's interpretation of the medical environment with his psychological needs and drives. This interaction is made possible by the placebo, which acts as vehicle, making the MTP socially and emotionally acceptable to the patient. It is not eliminated by the double-blind test, which attempts to eliminate the bias of the observer. They also described a factor in drug evaluation that they call the signaling effect. It consists of a fantasy interpretation of phenomena that occur concomitant with but unrelated to drug action and that affect the patient's sense of well being as though they were the result of the doctor's influence.

The authors devised a method accounting for MTP rather than eliminating it. They divided their study into three parts. In the first, they administered the real drug with a protective and solicitous demeanor. In the second, they sustained the same attitude but administered a placebo instead of the drug. In the third, they assumed an abrupt and less

protective attitude, readministering the real drug in a physically different shape. The results substantiated the deep influence of MTP on the efficacy of even a potent drug.

The study also demonstrated that Milpath has a significant, truly pharmacologic action.—*Author's abstract.*

147. *Case-Work in the Teaching of Psychiatry.* T. T. DAVIES, E. T. L. DAVIES, AND DESMOND O'NEILL, London, England. Lancet *2*:34–37, July 5, 1958.

This paper is an account of the method of case work (the handling of patients by the students themselves, under supervision) and its value in the teaching of psychiatry and medicine. The essence of the thesis is that the best learning takes place through the exercise of responsibility. When the student himself has charge of a patient, his attitude towards the patient changes radically; he is more involved and gives more of himself than if he were passively listening to a teacher, however good. Perhaps one third to one half of all patients coming to a psychiatric clinic are suitable for case work. The risks have been magnified and the benefits diminished by conventional views on this topic. Entanglement of the student is a rare event. The method is popular among the student body and the level of enthusiasm is high. The therapeutic results are reasonable and bear comparison with those of the skilled therapist. Case work is a preparation for life; the young doctor, unless he is going to work in a laboratory, will have to work with people, and there is no training for this except doing it under the charge of a senior. Family doctors in general applaud the method; their most usual comment is "Wish I'd had the chance to do that." 8 references.—*Author's abstract.*

148. *Shakespeare's Psychiatry—and After.* WINFRED OVERHOLSER, Washington, D. C. Internat. Rec. Med. *172*:463, Aug., 1959.

In this Shakespeare's birthday address, the author discusses the ideas of mental disorder that prevailed in the time of Shakespeare and that presumably influenced Shakespeare's depictions of mental disorder and his references to it. Three influences were at work in the then current notions: belief in astrology, in witchcraft, and in the Galenical teachings as to anatomy, humoral physiology, and treatment by herbs and other drugs. Madness was looked upon by many of Shakespeare's contemporaries and by the public generally as a topic for jokes, and the state of Bedlam Hospital and the abuse dealt out to its inmates were sad indeed. Shakespeare himself, however, treated his mentally ill characters with sympathy. The author concludes with a thumbnail sketch of the progress made in concepts, treatment, and public attitudes in the last 350 years.—*Author's abstract.*

149. *The Significant Variables in Psychopharmaceutic Research.* L. J. SHERMAN, Brockton, Mass. Am. J. Psychiat. *116*:208, Sept., 1959.

Selected studies that indicate the importance of situational and personal factors on a patient's response to drug therapy are reviewed. A factorial research design has been proposed as the appropriate means of evaluating several of these significant variables in a single experimental study.

GERIATRICS

150. *Double-Blind Evaluation of Methylphenidate (Ritalin) Hydrochloride: Its Use in the Management of Institutionalized Geriatric Patients.* FRED T. DARVILL, JR., Sedro Woolley, Wash. J. A. M. A. *169*:1739–1741, April 11, 1959.

Ritalin has been reported of value in managing committed geriatric patients, but most of the studies to date have utilized small series, no controls, or no double-blind technique. Seventy committed senile patients (average age, 78 years), randomized solely by case number, were given methylphenidate (10 mg. tablets) or an identical placebo in a double-blind manner. Thirty patients (group I) received one tablet daily of either methylphenidate or placebo the first week, two the second week, and three the third to sixth weeks. Forty patients (group II) received one tablet daily the first week and thereafter weekly increments of one tablet daily for the next five weeks. Both groups were observed off medication for two additional weeks.

Before treatment, and thereafter weekly for eight weeks, recordings of pulse, blood pressure, weight, and medical complications were made; additionally, orientation, appetite, continence, cooperation, activity, rationality, personal care, and irritability were scored as follows: 2 plus, much improved; 1 plus, some improvement; 0, no change; minus 1, somewhat worse; and minus 2, much worse. Final over-all evaluation was made on the same scale. Scoring was done in conference by the investigator, ward physician, ward nurse, and attendants. In group I, 5 patients improved (3, 1 plus; 2, 2 plus) on methylphenidate, and 7 patients improved on placebo (5, 1 plus; 2, 2 plus); 2 became worse (both 1 minus) on methylphenidate, and 1 became worse (1 minus) on placebo. In group II, 6 patients improved (4, 1 plus; 2, 2 plus) on methylphenidate, and 7 patients improved (6, 1 plus; 1, 2 plus) on placebo. Two became worse (1, 1 minus; 1, 2 minus) on methylphenidate and 3 became worse (all 1 minus) on placebo. No significant toxicity was encountered. In conclusion, no significant differences were noted between methylphenidate and the placebo in this study. 10 references. 1 table.—*Author's abstract.*

151. *Community Needs Of Elderly Psychiatric Patients.* C. COLWELL AND F. POST, Maudsley Hospital, London. Brit. M. J., p. 214, Aug. 22, 1959.

In prevention and early treatment as well as aftercare, the scope for community service in the case of elderly psychiatric patients is frighteningly large. Of one year's discharges, from a unit for recoverable cases over 60 only 15 per cent of the patients remained completely well over the next two years and 71 per cent received further psychiatric treatment. Any worth-while community service for elderly people with psychological difficulties will prove very expensive, since it must provide for large numbers. Future programs should be developed gradually in accordance with plans to allow scientific assessment of the value of such care.

152. *Notes on a State Hospital Geriatrics Service.* VICTOR H. PENTLARGE, Worcester, Mass. Ment. Hosp. *10*:14–16, Sept., 1959.

The author, reporting on a year's experience in the geriatrics service of the Worcester State Hospital, reminds us that "self-limited functional psychoses do appear among the

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The author, reporting on a year's experience in the geriatrics service of the Worcester State Hospital, reminds us that "self-limited functional psychoses do appear among the

aged." The unit of 927 beds was able to send out 65 patients, or 7 per cent of the average daily census, in a year. The *Rauwolfia* and phenothazine derivatives have been found useful; electroconvulsive therapy has been rarely used. Above all, though, personal interest of the medical and nursing staffs—"moral treatment"—offers much to the patient, and every effort is made to encourage the patient's family to maintain interest in him and to plan for the time when he may leave the hospital. The willing cooperation of doctors, nurses, and auxiliary personnel, who adopted an optimistic and workman-like attitude toward the problems of the patients, is credited in large measure with maintaining the emotional tone and morale of the patients and promoting discharges.

PSYCHIATRY OF CHILDHOOD

153. *Infantile Anxiety, the Precursor of Neuroses.* P. N. CHOUBEY, Calcutta, India. Acta Psychotherapeut., psychosom., et orthopaedagog. *6*:349–354, 1958.

The importance of the psychosomatic approach to the study and treatment of human ailments, which follows logically from the realization that man is more than his body, is no longer denied. Nowadays, diseases hitherto considered of purely organic origin, such as respiratory, cardiovascular, gastrointestinal disturbances, and even skin diseases and rheumatoid arthritis, are subjected to psychotherapy with very good results. Psychoanalytic clinical experiences have shown that neuroses originate mostly from morbid anxieties whose formation may be traced to early childhood, even infancy. Anxiety is germinated by repressed instinctual desires and is rooted in doubt. Impulses of hate, jealousy, and sex repressed out of fear of consequences are transformed into psychoneurotic traits. Fear of castration is the most common cause of repression. Fixation of normal fears and anxieties of early ages through repetition leads to phobias and morbid anxieties that are symptoms of neuroses. Play activities help the children to master their anxieties through their projection on to the outer world. Quite often an exaggerated moral sense (superego) brings about a cleavage between the conscious self (ego) and the instinctual desires (id), causing deepest anxiety. The final stabilization of human personality depends upon the degree of harmony among the ego, the id, and the superego.—*Author's abstract.*

154. *Childhood Schizophrenia, Childhood Autism, and Heller's Disease.* CLEMENS E. BENDA AND JOHANNES C. MELCHIOR, Boston, Mass., and Copenhagen, Denmark. Internat. Rec. Med. *172*:137–154, March, 1959.

Three psychiatric conditions of childhood are associated with conspicuous alterations in mental and emotional behavior patterns without evidence of "organic brain syndrome": childhood schizophrenia, childhood autism, and Heller's disease. The evaluation of childhood schizophrenia, developing in children who have evidenced emotional disturbance usually from the second year of life on, is extremely difficult. This paper is particularly concerned with schizophrenia of early childhood. Heller's disease or dementia infantilis is a rare, progressive deteriorating disease, starting at about 2 years of age and leading gradually to a state of complete mental withdrawal and symptomatic mannerisms, gradual loss of speech, inability to communicate, lack of emotional expression, but relative preserva-

tion of appearance and motor abilities. Its pathology is not fully understood, and four theories are considered. Childhood autism is a syndrome of extreme aloneness and lack of communication with the environment. The occurrence of childhood autism is due to various etiological factors: (1) Organic brain syndrome, possibly due to asphyxiation at birth, (2) inability of a child to form adequate reality contacts, due to parental difficulties and severe emotional deprivation in early childhood, (3) the early symptom of a childhood schizophrenia, which may terminate in the usual patterns of adult schizophrenic behavior. A differential diagnosis between childhood autism and childhood schizophrenia is often difficult before 6 years of age. Illustrative cases are presented. 31 references. 3 figures.—*Author's abstract.*

155. *Prognostic Difficulties in Mental Retardation.* BRIAN H. KIRMAN, London, England. Internat. Rec. Med. *172*:197–203, April, 1959.

A firm prognosis as to mental development should seldom be given for a child less than the age of 5 years. A minority of older children show an irregular curve of mental development. Some conditions such as mongolism and microcephaly are diagnosable at birth, but the range of intelligence within these syndromes is very wide. Environment is an important factor in this variation. Specific handicaps such as deafness and blindness may produce a false impression of gross mental defect. Emotional disturbance may also create an appearance of retardation. The two conditions are often confused but are best treated separately as far as possible. Both emotional disturbance and retardation are influenced by the adequacy of the home environment, and prognosis depends partly on the extent to which defects in the material and psychological background can be remedied. In an appreciable minority of cases, young children who appear very retarded do much better than is anticipated and show large gains in intelligence quotient. In a smaller number of cases the mental capacity deteriorates. The importance of this group has been overemphasized. Such cases include those with the lipidoses and Schilder's disease. Prognosis for arrested hydrocephalus and also epilepsy requires some caution since a minority of children with these conditions deteriorate. It is better to err on the generous side in estimating a child's future capacity since it is the underestimation, with consequent limitation of opportunity, that is particularly harmful. 12 references.—*Author's abstract.*

156. *Diagnosis and Treatment of Behavior Disorders in Children.* G. J. LYTTON AND M. KNOBEL, Kansas City, Mo. Dis. Nerv. System *20*:334, Aug., 1959.

A review of current concepts on organic basis of behavior disorders is presented. The results of a pilot study of the use of methylphenidate in behavior disorders is briefly demonstrated. Methylphenidate proved efficacious in 15 out of 20 children with disturbed behavior. Side effects were minimal. The conclusion is drawn that methylphenidate acts on the cortex and produces goal-directed, coordinated behavior. 44 references.

157. *Heller's Disease and Childhood Schizophrenia.* N. MALAMUD, San Francisco, Calif. Am. J. Psychiat. *116*:215, Sept., 1959.

As described by Heller in 1930, this disorder ("dementia infantilis") occurs in children

who, without preceding illness, become conspicuous in the third or fourth year of life because of symptoms of character disorder, marked by negativism, moodiness, disobedience, destructiveness, and occasionally by hallucinations. The author studied 6 patients, 2 of whom came to autopsy, who might have been considered to be suffering from Heller's disease or childhood schizophrenia. The two patients who died clearly had amaurotic family idiocy. The others too showed organic symptoms; the author considers the diagnosis of Heller's disease inadequate and that of childhood schizophrenia misleading. 3 references.

PSYCHIATRY AND GENERAL MEDICINE

158. *Psychiatric Unit in a General Hospital.* CHARLES W. TIDD, ROBERT J. STOLLER, AND DONALD A. SCHWARTZ, Los Angeles, Calif. J. A. M. A. *169*:582–586, Feb. 7, 1959.

The paper is concerned with the development of a psychiatric inpatient facility in a university medical center. Three years of experience in operating such a ward have pointed up many advantages of this kind of setting. Patients are selected for admission by an admitting team consisting of the psychiatric resident, the psychiatric social worker, and the chief resident in psychiatry. Occasionally patients must be screened out because of a particular kind or degree of disturbance that makes treatment in this setting inappropriate. This is not to imply that patients with mild disturbances only are admitted. About one half the patients are psychotic. It was possible to operate the ward without undue disturbance to the rest of the hospital. Disturbed behavior was controlled and treated by a therapeutic use of the milieu rather than mechanically. An extensive activities program run largely by volunteers is a vital part of the treatment program. All patients are required to attend all activities unless they are physically unable to do so or have a (rare) clear psychiatric contraindication. Such a program tends to minimize regression and mobilize the patient's energies in constructive activity. There is evidence to show that this particular setting, in the midst of the community rather than in some remote and isolated place, offers many advantages in treatment and tends to shorten the course of the illness. Community facilities are utilized in the treatment program, and close contact with the patient's home environment and family is maintained. Several case histories are given to illustrate the techniques whereby the family and community are involved in the treatment program. A secondary but valuable effect of the ward has been its tendency to dissipate the fear and ignorance of emotional disorder which tends to be prevalent in the community. 10 references.—*Author's abstract.*

159. *Some Observations on the Relation of Psychotic States to Psychosomatic Disorders.* H. G. PANETH, Budapest, Hungary. Psychosom. Med. *21*:106, March-April, 1959.

Three cases are presented in which a psychosomatic disease was transformed into a psychosis. In each case there appeared to be a similarity between the unconscious impulse and fantasy behind the somatic disease and the overt content of the psychotic delusions. The transformation appeared to be the result of psychogenic factors. In 2 cases, ulcer symptoms gave way to delusions of being poisoned. In the last case, remission of the symptoms of colitis was followed by hypochondriacal delusions involving the intestines and subsequently by a paranoid psychosis. 10 references.—*Author's abstract.*

160. *Contribution to the Psychological Understanding of Pruritus Ani.* R. P. ALEXANDER, Beverly Hills, Calif. Psychosom. Med. *21*:182, May-June, 1959.

A case of pruritus ani of 7 years' duration is presented. Although the patient was in psychoanalysis for more than four years as the result of a more disturbing character problem, a detailed investigation into the nature of the psychodynamic meaning of pruritus ani could be made. The pruritus symptoms themselves are perhaps the most prominent features in a syndrome that includes characteristics of both a physical and psychic nature. Common physical entities include itching and discharge, nausea, bloating and fullness of the abdomen, constipation, and diarrhea. Psychological counterparts include aggressive, defiant, stubborn, and retentive personality traits, hostility, and, at times, marked depression. The syndrome occurs as the result of defensive struggle against the conscious recognition of passive, oral receptive wishes and destructive rivalry impulses. The unconscious desires to receive all the nourishment and love from the breast and warmth from the mother's body are denied and rejected, resulting in the utilization of the anal mechanism, where the desired content can be hostilely retained, and the frustrating, disappointing mother controlled. The itching and scratching of the pruritus thus represents the gratification of aggressively grabbing the desired object in relation to the equation feces = penis = baby = breast, and, at the same time, represents punishment as the result of the hostile incorporative nature of these impulses. It is also postulated that the anal sensations are necessary to bind primary separation anxiety and thus prevent loss of the internalized object, which might result in ego disintegration. The psychodynamic relation of the self-destructive aspect of the scratching and tearing to masochism and its dermatological correlate is described. Also, some comments on the technical handling of special problems in such a case are made.—*Author's abstract.*

PSYCHIATRIC NURSING, SOCIAL WORK, AND MENTAL HYGIENE

161. *Probability and the State of Mind.* J. B. CHASSAN. Doctoral Dissertation, 1958, George Washington University, Washington, D. C.

Ramsey's recognition of the place of "medical psychology" in the content of logic, the contention of I. J. Good that the state of mind is an important factor in the application of probability theory, and L. J. Savage's view of statistics proper as "dealing with vagueness and with interpersonal difference in decision situations" lead to a consideration of the application of certain of the tools and concepts of psychiatry to problems of inference. The essential contribution of psychiatry in this area lies in the exploration of mental processes that take place outside of awareness. The tools of psychiatry are used not only in the treatment of mental disorder but also in the correction of distortion in observation and inference in the process of treating for mental disorder. Repression and selective inattention interfere with the observation and influence of new data in the correction or avoidance of distortion. New data may be lost through repression because their conscious acknowledgment might undermine a body of beliefs strongly identified with personal security. Data may be selectively inattended to avoid a feeling of discomfort. Although the tools of psychiatry are most directly applicable to the study of psychopathology and the behavioral

sciences in general, Kubie's comments on the various levels of the interpretation of symbols suggest their possible application in wider areas, including the physical sciences. Reichenbach's interpretation of the "single case" and—consistent with Good's approach—a consideration of the influence of the state of mind as a factor in the selection of a data system from among observationally disjunctive vectors lead to the concept of a subjective probability sequence. The latter is relevant to the stochastic definition of patient states and to the probabilistic aspects of interpretation.—*Author's abstract.*

162. *Patient Improvement and Psychiatric Nursing Care.* G. R. FORRER AND J. L. GRISELL, Northville, Mich. Dis. Nerv. System *20*:357, Aug., 1959.

The authors report a study of nursing activity on experimental and control wards of a mental hospital to determine if the addition of nurses to wards would result in an increase in the number of patients discharged. The results were inconclusive, partly because of turnover, and partly because of the fact that the study ran only six months. The authors conclude, however, that more nurses can mean more activities for patients, and that the skills of the nurses will be applied more nearly where they are needed most, i.e., with patients who are slower in responding to the regular hospital program. This is the group that must be reached if the discharge rate is to be increased.

PSYCHOPATHOLOGY

163. *The Psychopathology of Suicide.* M. WOOLF, Tel Aviv, Israel. Acta psychotherapeut., psychosomat., & orthopaedagog. *6*:317–326, 1958.

The psychological problem of suicide consists of the following: How does the urge of suicide manage to take away life, the powerful drive that maintains and defends life on the earth, and to overcome the instinct of self-preservation? Observation of the illness in which the drive to take one's own life is specially typical, i.e., melancholia, shows that this drive is the result of a disappointment in regard to a beloved object, whom the ill one now hates, despises, and wishes to destroy, but with whom he identifies himself at the same time. The shadow of the object falls across the ego, according to the expression of Freud, in sadness and melancholia. As a consequence of this identification, the hatred, contempt, and feeling of little worth and the wish to destroy transfer themselves to the ego. This leads to a conflict between the ideal ego and the ego, through which the narcissism of the ego is much weakened and harmed. The same psychological process develops also in the so-called healthy person as the result of a disappointment in regard to a beloved object, whether this object be a person or an abstraction, such as the native country. The instinct of preservation is not congenital; it develops in such a way that the natural narcissism of the ego permits it to control the instinct of aggression and to use it for self-preservation and self-defense. Narcissism is heavily damaged and weakened through identification with the hated object and can then no longer resist the hatred of the ego for itself, through which the instinct of self-preservation is badly disturbed; it then becomes possible for the ego to destroy itself. Other cases of suicide occur in which the ego is dominated by a passion or in a flash despises itself for weakness toward the ideal ego. Regret and reflection come along,

and then the conflict arises between the ego and the ideal ego, the instinct of self-preservation is weakened, and the ego, filled with hatred and contempt for itself, cannot withstand the need for punishment and the instinct to self-destruction.—*Author's abstract.*

164. *Sensory Deprivation and Schizophrenia.* A. HARRIS, London, England. J. Ment. Sc. *105*:235–237, Jan., 1959.

Twelve schizophrenic patients were placed in conditions whereby external sensory stimulation was virtually abolished for short periods of time. They lay on a couch in a soundproof cubicle wearing opaque goggles and gloves fitted with long cardboard cuffs extending downwards over the tips of their fingers. Previous similar experiments had shown that normal subjects placed under conditions of sensory deprivation had developed visual hallucinations. The schizophrenics in the present experiment behaved quite differently. They were more tolerant than the normals of the experimental conditions, and the sensory deprivation had the temporary effect of reducing the intensity of their auditory hallucinations. It would thus appear that in schizophrenia visual sensory stimuli reinforce hallucinatory experiences. This is consistent with the explanation of some of the phenomena of schizophrenia, on the grounds of an inability to deal with the inflowing stream of sensations and percepts. Sensory deprivation would then have the effect of reducing the strain and bringing temporary relief to the mechanisms involved. The incidental observation showed that the schizophrenic subjects tended to underestimate periods of time (of approximately half an hour) both in the cubicle and in the ward. 5 references.—*Author's abstract.*

165. *Extensions of Theory Concerning Body Image and Body Reactivity.* S. FISHER, Houston Texas. Psychosom. Med. *21*:142, March-April, 1959.

Previous research findings have indicated that important socialization experiences may become translated into body image attitudes and these in turn into body reactivity gradients or landmarks. On this basis a theory is offered that proposes that many of the crucial roles learned by the individual need to be transposed into body attitudes before they can become an integral part of his identity. A further formulation is offered that views many psychosomatic symptoms as representing distorted attempts by individuals under stress to maintain fading body excitation landmarks whose existence have considerable reassurance value. 16 references.—*Author's abstract.*

166. *The Etiology of Sociopathic Reactions.* FREDERICK C. THORNE, Brandon, Vt. Am. J. Psychotherapy *13*:319–330, April, 1959.

Adler's concept of life style may be considered as a key to the understanding of sociopathic reactions. Recognizing that there may be constitutional differences in drive strength and impulsivity, and viewing life style as the person's conscious-unconscious strategy for satisfying his needs in an environment that may subtly stimulate and reinforce sociopathic reactions, it becomes important to analyze the specific offensive-defensive mechanisms whereby personality needs are expressed or gratified. We propose to interpret sociopathic reactions as disorders of the style of life in which an initially normal person is conditioned to depend upon unhealthy mechanisms to gratify his needs. The resulting sociopathic

behavior is viewed as the outcome of a vicious circle of interpersonal reactions tending to exacerbate rather than alleviate the condition. Sociopathic reactions may be regarded as interactional disorders in which the organism "acts out" the distorted perceptions, conditionings, and motivations of his unrealistic life style. Adler described the sociopath tentatively as the "receptive type" variety of the "pampered life style," thus recognizing the determinants of getting something for nothing in a situation of being pampered. Perhaps the outstanding mechanism of the sociopath is to take what ordinarily would be earned. The development of this pattern is not difficult to understand since the operation of the expansion tendency in children causes them to take everything they can. Unless controlled by social limits, this tendency to gratify pleasures immediately, to live for the moment, becomes habitual. It starts when the child is not punished when he steps out of bounds, when the parents are too divided, inconsistent, or weak to establish discipline. With a very attractive child, the environment may purchase their indulgence at any cost. Gradually, the sociopath may take so ruthlessly that curtailment is impossible even to the point of self-destruction. 7 references.—*Author's abstract.*

TREATMENT

b. Drug Therapies

167. *Theoretical Considerations in Parkinsonism Induced by Tranquilizing Drugs.* P. GUGGENHEIM AND L. COHEN, Council Bluffs, and Philadelphia, Pa. Dis. Nerv. System *20*:346, Aug., 1959.

The authors discuss the etiology of parkinsonism occurring during the use of chlorpromazine and reserpine, with especial reference to the possible psychogenic factors, and review the literature. They suggest that these drugs may so alter the state of the centrencephalic system as to render more probable the development of parkinsonian akinesia in the service of ego homeostasis. Further study is necessary. 44 references.

168. *Deprol in Depressive Conditions.* K. RICKELS AND J. H. EWING, Philadelphia, Pa. Dis. Nerv. System *20*:364, Aug., 1959.

A comparative study was made of 25 psychotic and 10 neurotic patients with depression, using meprobamate and benactyzine. The drug is reported to have acted in a generally favorable way in most of the patients. 2 references.

c. Psychotherapy

169. *Psychotherapy for the Aging.* HATTIE R. ROSENTHAL, New York, N. Y. Am. J. Psychotherapy *13*:55–65, Jan., 1959.

As general life expectancy increases and the aged become a rapidly expanding proportion of our nation, significant changes are wrought in our conceptions of social and economic responsibilities to this group. However, in the field of psychotherapy, Freud's attitudes of a half century ago still prevail: beyond middle age therapy becomes unfeasible. For the aged, this attitude dovetails with the general view that the aged have lost vitality, the ability to change and construct useful lives. Thus, on the one hand, the aged are partly

victims of the image projected onto them, and, on the other hand, the attitudes at large become convenient tools for the neurotic aged to achieve their goals through socially condoned means. The author reports having treated about 30 patients between the ages of 58 and 72. Although therapy might at times have moved slower, it did not differ significantly from ordinary therapy in terms of length or depth. Case histories are presented, both to indicate the breadth of therapy undertaken and some of the neurotic maneuvers of the aged. It is observed that loss of recent memory, an accepted commonplace, can be highly selective, serve neurotic ends, and be understood in a similar manner as are memory slips of any age group. Then, too, helplessness and dependency are used to manipulate others in neurotic exploitation of social stereotypes. Unconscious material is found to remain active and to produce such phenomena as the return of long-repressed wishes in a "final acting out," and the transfer onto their children of attitudes once held toward parents, termed "reversal." A valid assessment of national mental health must include the aged, but also it must modify outdated stereotypes. 8 references.—*Author's abstract.*

170. *Ego Strengthening Aspects of Supportive Psychotherapy.* IRA M. CARSON AND SHELDON T. SELESNICK, Beverly Hills, Calif. Am. J. Psychotherapy *13*:298–318, April, 1959.

Supportive psychotherapy is a major tool in the psychiatric physician's armamentarium. Even though its use is ubiquitous, support cannot be regarded as superficial and should be based, as are other important medical techniques, on rational principles. Prior to the initiation of systematic psychotherapeutics, a study of ego functioning is essential. This includes evaluating the ego's strength by ascertaining its maturation, boundaries, and levels of decompensation. The mature ego strives toward homeostasis by appraising internal and external demands, synthesizing the contradictions of these demands, and finally by executing appropriate behavior. The weakened ego, unable to tolerate tension, shows signs of fixation and regression, rigidity, and chronic defensive struggles. The ego may be also evaluated by ascertaining its relative strength in relation to its boundaries (the ego, id, and external environment). Supportive psychotherapy depends on a positive transference and attempts to strengthen defenses. Various techniques of supportive psychotherapy, including suggestion, reassurance, environmental manipulation, advice, persuasion, and abreaction, are discussed. Ego-strengthening psychotherapy may achieve definite goals that are constructive and beneficial. It may also provide strength necessary for the ego to withstand anxiety aroused by exploration and interpretation of unconscious material. A continuum can be seen to exist in psychotherapy of the weak ego from the point where the ego is continually supported in preparation for the periods of abreaction until it is prepared by reality testing for periods of clarification. Subsequently, the more objectified ego, with improved functioning, can be better sustained. Thereafter, one may begin to uncover unconscious processes, in order to arrive at significant interpretations leading to insight. Three cases are presented to illustrate ego weaknesses and to demonstrate the techniques used that improve ego functioning. 30 references.—*Author's abstract.*

171. *Psychotherapy with Latent Schizophrenics.* BENJAMIN B. WOLMAN, New York, N. Y. Am. J. Psychotherapy *13*:343–359, April, 1959.

The methods of psychotherapy described are based on the author's new theory of schizo-

phrenia. Schizophrenia has been defined as vectoriasis praecox, which is a severe object hypercathexis and resulting catastrophic self-hypocathexis and collapse of the ego. The methods of prevention of a breakdown (transformation of latent schizophrenia into a manifest one) are described. The economy of libido and destrudo cathexes between self and objects has to be redistributed. Dynamic considerations emphasize strengthening of the ego, and topographic strategy depends upon how much of the unconscious has already penetrated into the conscious. The psychotherapeutic technique includes (1) conservation of mental energy of the patient already impoverished by the lavish object hypercathexes, (2) encouragement of narcissism, (3) reducing the patient's overemotional cathexes and encouragement of social relations on a give-and-take basis, (4) not acting-out of hostility but relieving guilt feelings connected with (5) selective interpretation of unconscious depending upon the relative strength of the ego. The methods described here have been illustrated by brief examples taken from individual and group psychotherapy with twenty patients. 33 references.—*Author's abstract.*

172. *Health Oriented Psychotherapy.* B. BANDLER, Boston, Mass. Psychosom. Med. *21*:177, May-June, 1959.

The author suggests that the focus in the past has been too exclusively pathology oriented. Equal emphasis should be devoted to health. A knowledge of what went right in the patient's life opens up more avenues for helping the patient than a more exclusive knowledge of what went wrong. The anamnesis should not be one sided, dealing only with the patient's pathology. The focus of therapy should be on the area of satisfactions, and the primary goal of the therapist is to restore or help find new sublimations.

neurology

CLINICAL NEUROLOGY

173. *Congenital Muscular Hypertrophy.* HANS ZELLWEGER AND WILLIAM E. BELL, Iowa City, Iowa. Neurology *9*:160–166, 1959.

Most newborn babies are hypertonic. This physiological muscular hypertonia disappears at 2 months, approximately. In some cases it remains for a longer time and in a few cases is associated with muscular hypertrophy. The cases reported in the literature are reveiwed, and 3 new cases are reported. Evidence to relate such cases with congenital hypothyroidism is lacking. Four types of congenital muscular hypertrophy can be distinguished: (1) Congenital muscular hypertrophy associated with brain disease, (2) Thomsen's disease or myotonia congenita, (3) muscular glycogenesis, and (4) benign idiopathic congenital muscular hypertrophy. Cases of the first group can be recognized by the presence of associated cerebral symptoms. Thomsen's disease is characterized by the delayed muscular relaxa-

tion and the typical myotonic pattern in the electromyographic record. In muscular glycogenesis, the muscular hypertrophy is combined with severe muscular hypotonia and muscular weakness; cardiomegaly and protruding tongue are sometimes present. Benign idiopathic congenital muscular hypertrophy is found in otherwise normal children and has a good prognosis. No etiology so far is known. 29 references. 2 figures. 1 table.—*Author's abstract.*

174. *Pain in the Shoulder and Arm from Neurological Involvement.* PAUL C. BUCY AND H. R. OBERHILL, Chicago, Ill. J. A. M. A. *169*:798–803, Feb. 21, 1959.

Pain in the upper extremity may arise from many causes and commonly is the result of involvement of the nervous system. This involvement may occur in the spine, brachial plexus, or the peripheral nerves of the upper extremity. Herniation of a cervical intervertebral disk is the most common neurological cause of such pain and produces remarkable stereotyped symptoms and findings. It is on these aspects that the diagnosis is most often made, and myelography in general is unnecessary. Relatively simple conservative measures, such as immobilization and local physical therapy, result in recovery in most cases, and in the remainder suitable laminectomy and removal of only the herniated fragments produces excellent results. Spinal cord tumors, another common cause of such pain, can be dealt with only surgically and should be so managed as early as possible. Cervical ribs and the scalenus anticus syndrome resulting in such pain do so most often secondarily to other lesions of the cervical spine and hence are best managed by attention directed to the underlying cause (disc herniations, tumors, etc.). Carcinoma of the pulmonary apex and other tumefactions along the neural pathways are managed as indicated with those specific lesions (e.g., aneurysms, tumors of the nerve trunks). 5 figures.—*Author's abstract.*

175. *Acetylcholine in the Mechanism of Headaches of Migraine Type.* E. CHARLES KUNKLE, Durham, N. C. A. M. A. Arch. Neurol. & Psychiat. *81*:135–141, Feb., 1959.

In search of further evidence concerning the mechanism of arterial dilatation in migraine headache and its variants, a test was made of the hypothesis that acetylcholine may be the chemical agent directly responsible for relaxation of the vessel wall. Relevant data are the accessory signs of parasympathetic discharge observed in some patients with periodic vascular headache and evidence from animal experiments that vasodilator pathways pass from the brain stem to the carotid tree, at least to its intracranial branches. Samples of cerebrospinal fluid were collected from 22 patients with varieties of migraine headache, during and between attacks, and from a control group of 15 patients with nonvascular headaches and 37 patients with various neurologic disorders. Assays for acetylcholine were carried out by the highly sensitive method described by Tower and McEachern, employing the heart of the clam (*Venus mercenaria*). An effect resembling that of acetylcholine, weakening of the heart beat, was tested further by confirmatory methods, either mytolon block or hydrolysis of the sample. No acetylcholine was detected in samples from the control group, except for 2 patients with grand mal seizures. Among the 22 patients tapped during vascular headaches, an acetylcholine-like effect was demonstrated in 5, all from a subgroup of 9 with headaches apparently arising in intracranial arteries. In amount it was equivalent to 0.004 to 0.06 μg. of acetylcholine/ml. of cerebrospinal fluid. The re-

sults lend support to the basic hypothesis. 21 references. 2 figures. 1 table.—*Author's abstract.*

176. *Diabetic Neuropathy Precipitated by Diabetic Control with Tolbutamide.* MAX ELLENBERG, New York, N. Y. J. A. M. A. *169*:1755–1757, April 11, 1959.

Tolbutamide, a sulfonylurea derivative, is an oral hypoglycemic agent recently added to the therapy of diabetes mellitus. The introduction of a new drug into the therapeutic armamentarium necessarily requires careful observation to detect any toxic manifestation. To date, tolbutamide has proven to be clinically effective, and there have been remarkably few side reactions. There have been no previous reports of neurological complications in the literature. Three patients who developed diabetic neuropathy after the use of tolbutamide to control their diabetes are presented and discussed. Two of the three had diabetes of long duration and were poorly controlled; the third was a recently discovered diabetic, and tolbutamide was used to institute control. In each instance neuropathy occurred after good control had been established and while the patient remained under good control. Although the drug was suspected as being a toxic etiological agent, several factors absolve it of this role: (1) The neuropathy in these circumstances is identical with the recognized forms of diabetic neuropathy including symptoms, signs, and course, (2) the neurological picture improved and symptoms cleared despite the continued use of tolbutamide, and (3) similar experiences have been encountered with other means of diabetic control, namely, insulin and diet. Hence, tolbutamide is not the noxious agent but acts as the medium for control of the diabetes that, in certain instances, leads to neuropathy. 6 references.—*Author's abstract.*

177. *Importance of Accurate Diagnosis by Cerebral Angiography in Cases of "Stroke."* ROBERT A. KUHN, Denville, N. J. J. A. M. A. *169*:1867–1875, April 18, 1959.

The average middle-aged or elderly patient with cerebrovascular "stroke" does not receive a diagnosis of the precise anatomic lesion precipitating his stroke; yet today an accurate focal diagnosis has become of vital importance for each of these persons. The advent of safe cerebral angiography has revolutionized the management of cerebrovascular disease by providing, in many instances, accurate and precise factual information in regard to the cause of the stroke. A large number of patients developing stroke do so because of the presence of cervical carotid artery disease. In many instances, these chronic arterial occlusions are surgically remediable and blood flow volume to the brain can be increased with subsequent clinical improvement of the patient. Recent neurosurgical advances in the management of intracranial hemorrhage make it possible to lower drastically mortality rates, yet many of these patients are still handled under the outmoded rules of supportive therapy and watchful waiting. In cases of proven cerebrovascular ischemia due to cerebral artery insufficiency, anticoagulant therapy may be of great benefit. Modern treatment of patients in the categories described depends upon an accurate diagnosis, which in turn rests largely upon evaluation of each patient by serial cerebral angiography. The external postures of a stroke are not in themselves at all reliable insofar as establishment of an accurate anatomic diagnosis is concerned, and brain hemorrhage is no exception to this rule. Cases presented illustrate the nonspecificity of clinical diagnosis, in contrast to the

results obtainable when treatment can be guided by exact knowledge of the pathological lesion. It is the belief of the author that cerebral angiography should be considered a vital and routine part of the medical management of patients developing hemiplegia or other manifestations of stroke with or without intracranial bleeding. 13 references. 6 figures.—*Author's abstract.*

ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM

178. *Anatomical Studies of the Circle of Willis in Normal Brain.* BERNARD J. ALPERS, RICHARD G. BERRY, AND RICHARD M. PADDISON, Philadelphia, Pa. A. M. A. Arch. Neurol. & Psychiat. *81*:409–418, April, 1959.

A study was undertaken to determine the anatomical structure of the circle of Willis to learn its normal configuration and the frequency of deficient or incomplete circles. In 350 selected brains with no gross evidence of vascular pathology (except for arteriosclerosis) or other disease, anatomical configuration was normal in 183 (52 per cent). Slight variations in symmetry of the polygon were ignored so long as the circle was complete. The left posterior communicating artery was absent in two circles (0.6 per cent) in which an adequate segment of the internal carotid artery warranted the assumption that such an absence was not an artifact. The circle was completed by a fusion of the two anterior cerebral trunks for a variable distance in another 2 per cent. The commonest anomaly was a string-like vessel occurring alone or in combination with other anomalies in 96 circles (27 per cent). The most frequent of these was a string-like posterior communicating artery (22 per cent) on one or both sides. Although these attenuated arteries had a small external diameter, the overwhelming majority were patent. In 66 circles (19 per cent) there were duplications or triplications of vessels, the vast majority in the anterior cerebral and anterior communicating arteries. The two normal anterior cerebral arteries were accompanied in 8 per cent of the circles by a midline third anterior cerebral vessel, which arose from the anterior communicating artery. The embryonic derivation of the posterior cerebral artery from the internal carotid artery persisted as an anomaly in 51 circles (15 per cent). Such a vessel was connected by a small branch to the basilar artery. 29 references. 9 figures. 3 tables.—*Author's abstract.*

179. *Studies of the Hypoglycemic Brain.* FREDERICK E. SAMSON, JR., DENNIS R. DAHL, NANCY DAHL, AND HAROLD E. HIMWICH, Galesburg, Ill. A. M. A. Arch. Neurol. & Psychiat. *81*:458–465, April, 1959.

Some cerebral consequences of insulin-induced hypoglycemia in cats and rats were studied. The cats were made hypoglycemic to the point that cortical electrical potentials of the right motor and left limbic cortex had virtually disappeared, and the rats until convulsions occurred and righting reflexes were lost. It was found that cerebral deoxyribonucleic acid, pentose nucleic acid, total nitrogen, acid soluble nitrogen, and ionization of protein side groups change relatively little. However, the free amino acid pattern shows a considerable change: glutamic acid, aminobutyric acid, valine, glutamine, alanine, and serine decrease in that order. Aspartic acid initially rises and then falls during the latest stages. The initial rise in aspartic acid is probably a result of transamination from glutamic

acid. The amount of change in the amino acids is too small to yield any appreciable proportion of the total energy required by the brain. Lack of change in the nitrogen distribution also indicates that little energy is derived from nitrogenous compounds. The very small decrease in the cerebral nucleic acid level gives support to the idea that these compounds are metabolically stable materials. 22 references. 2 figures. 4 tables.—*Author's abstract.*

CONVULSIVE DISORDERS

180. *A Perspective of Epilepsy.* E. GRAEME ROBERTSON, Melbourne, Australia. Postgrad. Med. *25*:31–44, Jan., 1959.

Neurological consultation on a patient with epilepsy involves a full history from patient and eyewitness that allows of assessment of type of the attack. Some attacks suggest a symmetrical paroxysmal discharge from both cerebral hemispheres (centrencephalic or "idiopathic" epilepsy, notably grand and petit mal), and others an origin in a part of one hemisphere (focal, Jacksonian, or "partial" attacks). The past history, through pregnancy, labor, and infancy, is evaluated, and physical signs sought. Causation is considered. In the centrencephalic group, no cause is found by present methods (although atrophy may exist). In focal attacks, a detectable and perhaps removable cause may be found. However, focal attacks in children rarely repay search, in contrast to the postnatal period in which subdural hemorrhage may be causal. Neoplasm is a potential cause, especially in middle life, but other causes (including hypoplasia and atrophy, the latter becoming commoner in advancing years) are more frequent. The role of skilled obstetrics in reducing the incidence of so-called idiopathic and temporal lobe epilepsy is stressed. Investigation is undertaken if the patient may gain. Electroencephalography may help in the diagnosis of obscure attacks, in determining types of attacks (when this is not clear clinically), and in locating foci. Plain radiograms may show asymmetry of the skull and changes in bone and intracranial calcification. In cases in which neoplasm is suspected, more detailed investigation is considered. Early investigation with contrast media may fail to reveal a neoplasm that later becomes apparent. Pneumoencephalography is the most crucial investigation since it reveals atrophy as well as displacement. Treatment is surgical in a small proportion of patients. With neoplasm surgery is mandatory, whereas, in the case of cerebral scars, their position and the frequency and controllability of attacks usually determine the question. Advancing knowledge and technical skills are being directed towards other epileptic foci, particularly those in the temporal lobe. In a large proportion of patients, treatment is medical, involving a determined effort to find the most useful dosage and combination of drugs. The patient is encouraged to regard himself as a normal individual (with a few reservations concerned with safety). Causes and types of epilepsy and drugs are discussed. 22 references. 2 tables.—*Author's abstract.*

181. *Psychological Factors Involved in Bizarre Seizures.* M. E. CHAFETZ AND R. S. SCHWAB, Boston, Mass. Psychosom. Med. *21*:96, March-April, 1959.

Four patients are described who exhibited seizures together with major psychological problems. The authors recommend a team approach by psychiatrist and neurologist in order to secure effective treatment. They oppose the term hysteroid epilepsy, on the basis

that it implies that seizures and their psychological concomitants occur only in hysterical personality structures. They propose the concept that emotional conflict in susceptible individuals results in a lowering of the seizure threshold beyond a certain critical level, resulting in seizures. 15 references.

DISEASES AND INJURIES OF THE SPINAL CORD AND PERIPHERAL NERVES

182. *Spinal Extradural Cysts.* G. ROBERT NUGENT, GUY L. ODOM, AND BARNES WOODHALL, Durham, N. C. Neurology *9*:397–406, 1959.

This paper reviews the literature on 38 cases of spinal extradural cysts already reported and adds 7 more cases to this limited number. The review and new cases suggest that patients with these cysts usually present a long history of intermittent spastic weakness in their legs that is more advanced than any sensory loss. When the onset of symptoms occurs in adolescence, as is true of about half the cases, the cyst is likely to occur in the dorsal area, to be painless, and may be associated with the roentgenographic changes in the dorsal spine known as kyphosis dorsalis juvenilis. When symptoms develop in adults, they may also be located in the cervical, lumbar, or sacral region, where they are more likely to cause pain. Most patients had roentgenographic changes in the vertebral column consisting of erosion of the pedicles, widening of the spinal canal, or vertebral body changes. The cysts have the appearance of an evagination of dura and most frequently arise on the dural sleeve at its origin from the dural sac near the posterior roots and, less commonly, from the midline. These lesions may develop from proliferative and cystic changes in the roots and dura and probably undergo further enlargement from the pulsatile, hydrostatic pressure of the spinal fluid. The cysts may be surprisingly large and are felt to be caused by a long-standing defect, probably congenital, that enlarges slowly, empties itself through communication with the subarachnoid space, and allows for accommodation until the cyst becomes clinically apparent as a result of pressure changes that are sometimes associated with trauma or occlusion of its pedicle. The mass can easily be demonstrated by myelography, and the prognosis following surgical removal is good. 31 references. 4 figures.—*Author's abstract.*

183. *Myeloradiculoganglionitis Following Zoster.* G. PALFFY AND A. BALAZS, Pécs, Hungary. A. M. A. Arch. Neurol. & Psychiat. *81*:433–438, April, 1959.

The clinical picture of a benign case of polyganglionitis following thoracic zoster and the clinical and histologic findings of a similar, but fatal, case are reported. In the fatal case inflammatory as well as degenerative signs were found. The inflammatory process is most marked at the level and on the side of the skin changes in the spinal ganglia, in the cord, and in the intercostal nerves. The severity of the lesion of the medullated fibers of the peripheral nerves diminishes toward the distal portions. Degenerative changes of the ganglia decrease from the sacral levels cephalad. On the basis of the clinical and histologic picture, it cannot be decided whether polyganglionitis was caused by the spread of the zoster infection or whether skin eruptions of the zoster associated themselves with a process originally beginning as polyganglionitis. 5 references. 7 figures.—*Author's abstract.*

INTRACRANIAL TUMORS

184. *Extraocular Motor Disturbances in Primary Brain Tumors.* THOMAS C. PARSONS, Montrose, N. Y. A. M. A. Arch. Neurol. & Psychiat. *81*:182–188, Feb., 1959.

An analysis of signs of impairment of extraocular motility in a series of patients with primary brain tumors is made. A comparison with analysis of the extraocular motor nerve signs reported in large series of similar tumors in the literature is also made and mechanisms discussed. The results of the survey suggest that extraocular motor disturbances constitute a frequent and important sign of brain tumor, being exceeded only by pyramidal symptoms, signs of increased intracranial pressure, convulsions, pupillary changes, and mental alterations, including depression of consciousness. The importance of oculomotor nerve palsies in tumors distant from the extraocular motor system is as great as that of abducens nerve involvement. Unilateral involvement of either nerve suggests the presence of a hemispheric lesion; unilateral oculomotor palsy is especially characteristic of temporal lobe lesions. Bilateral or multiple extraocular motor nerve signs suggest basilar or brain stem lesions. The presence of extraocular motor nerve involvement suggests increased intracranial pressure in temporal and hemispheric tumors. 38 references. 7 tables.—*Author's abstract.*

NEUROPATHOLOGY

185. *The Pathological Anatomy of Dystrophia Myotonica (Curschmann-Steinert).* HORST BERTHOLD, Rostock, East Germany. Deutsche Ztschr. f. Nervenh. *178*(4):394–412, 1958.

A cross section of available results is given, including both world literature and the author's own experience. Besides the testicles, the suprarenal capsule or gland plays a leading role in the illness, whereas the hitherto often-cited hypophysis diseases are found to be nonuniform and rare. Descriptions of pathological brain disease of the hypothalamus are based on cases in which a deeply seated pathological process (tumor, poliomyelitis, bleeding, trauma) was involved that was independent of the basic illness. In other case histories, no definite changes were evident. In approximately half the cases, cellular changes were found as well as nonfunctioning of the anterior horns of the spinal cord; in some cases changes of the cerebral nerve center were evident. These phenomena can be assumed to be the consequence of retrograde degeneration. In the author's investigations of the skeletal muscular structure, the metachromasia of single fibers was especially noticeable, evidence of a histochemical process that appeared prior to the loss of the transverse striata. The absence of larger ventrical dilatations leads one to assume that the loss of elasticity can be compensated for through tonic symptoms in the myocardium (heart muscle). In the histological investigation of the heart, the accumulation of perinuclear pigments was particularly noticeable. In some cases, the changes in the myocardium (heart muscle) can appear earlier and be more severe than those in the skeletal muscular structure and thus become the main focus in the clinical picture of the case. The anatomical changes show more similarity between dystrophia myotonica (Curschmann-Steinert) on the one hand, and dystrophia musculorum progressiva (Erb) on the other, as compared with those of myotony of Curschmann-Steinert and Thomsen. Related nosological ties are not quite

clear at present. A further definite division between the two forms of myotony must therefore be recommended. 55 references. 4 figures. 1 table.—*Author's abstract.*

186. *Circumscribed Cortical Atrophy in Alzheimer's Disease.* F. SEITELBERGER AND K. JELLINGER, Vienna, Austria. Deutsche Ztschr. f. Nervenh. *178*(4):365–379, 1958.

A small number of cases of Alzheimer's disease with localized atrophies has been described whose clinical and anatomical classification either caused difficulties or has been disputed. This study records the case of a 64 year old female patient who showed restlessness, disorientation, aphasic and apraxic disorders, and a severe organic dementia during the last three years of her life. Clinically, the final stage of Alzheimer's disease was diagnosed. The small brain showed marked focal atrophies reminiscent of Pick's disease, distributed in the left frontal pole and inferior temporal regions bilaterally, including the temporal polar areas. Histologically, the elements of the Alzheimer syndrome (senile plaques, alterations of the fibrils, and "congophile angiopathy") can be traced in diffuse distribution in the cerebral cortex, in the claustrum, and in certain subcortical gray centers (particularly the thalamus, substantia innominata, corpus mamillare). In the strongly atrophic cortical areas these alterations appear in masses. This results in a considerable loss of nerve cells, in disappearance of stratification, and in status spongiosus. The morphological findings and comparative histochemical examinations of Alzheimer's fibril changes and of the intracellular "argyrophilic balls" frequently occurring in Pick's disease do not yield any basic clues, either for the presentation of a Pick's circumscribed cortical atrophy or for a combination of Pick's disease and Alzheimer's syndrome. It is argued that those local atrophies of the case described that imitate the Pick pattern of predilection, as well as of rare analogous cases in literature, are to be considered pathogenetically as the result of a local accentuation of the usually diffuse process of Alzheimer's disease due to intensive and quantitative constitutional factors. The histomorphological total picture of the process leading to atrophy is characterized as the parenchymatous form of Alzheimer's disease. After critical examination, and considering the presented histochemical findings, the occurrence of combinations or mixed forms of Pick's and Alzheimer's disease has to be regarded as not proved. Thus the dualistic treatment given to these two presenile diseases by Spatz and others is confirmed. 22 references. 4 figures. 1 table.—*Author's abstract.*

187. *Research in Organ Selection in Neurosis, Especially in Neurocirculatory Asthenia: On Chronic Arachnoiditis.* O. MORIMOTO, Kyoto, Japan. Folia Psychiat. et Neurol. Japanica *12*:34–49, April, 1958.

From the standpoint of psychology proposed by Maekawa, somatic symptoms in neurosis, especially in neurocirculatory asthenia, were analyzed in the light of histopathologic examination of the spinal cord and of the spinal arachnoid membrane. Perimedullar and periradicular changes in the subarachnoid space were noted in levels of the spinal cord and the root, corresponding to somatic symptoms manifested by patients. The periradicular changes were more marked around the posterior than around the anterior root. In the lateral horn cells, changes similar to axonal reaction were often noted. In the posterior root ganglion, several changes were found, especially in small cells of the locality. The inter-

stitial cells and the capsule cells in the posterior root ganglion were also proliferating. In conclusion, somatic symptoms presented by patients with neurosis may mostly be prescribed by the spinal subarachnoideal, in particular periradicular, changes. In other words, the organ selection in neurosis may be looked upon as a fixation of the inductive system by chronic arachnoiditis. 23 references. 9 figures. 1 table.—*Author's abstract.*

TREATMENT

188. *Anticoagulants for Occlusive Cerebrovascular Lesions.* E. F. VASTOLA AND A. FRUGH, Brooklyn, N. Y. Neurology *9*:143, 1959.

Anticoagulants were administered to 55 patients with a presumptive clinical diagnosis of recent occlusive cerebrovascular lesion. No patients were more than slightly hypertensive, and in all instances a lumbar puncture prior to therapy revealed no evidence of hemorrhage. With respect to progression of an incomplete lesion, rate of recovery, and degree of recovery, the clinical course of these patients was no more favorable than that expected in a similar group treated only by supportive measures. Of these patients, 36 per cent had bleeding in various parts of the body during therapy; this high incidence is not believed to be related simply to the degree of prothrombin depression. It is highly probable that, in 4 of these patients, anticoagulation in the therapeutic range was responsible for extensive hemorrhage into the brain with severe deterioration in the patient's subsequent clinical course. In 3 of these patients, hemorrhage occurred in the region involved by the initial occlusive lesion, and in the fourth the hemorrhage occupied a different region. The true incidence of this complication may safely be considered to have been higher, since in most patients an adequate search for it was not made. The risk of hemorrhage into the brain appears to contraindicate the use of anticoagulants in the treatment of cerebrovascular lesions under the conditions described in this report. 7 references. 4 tables.—*Author's abstract.*

189. *Treatment of Paralysis Agitans with Chlorphenoxamine Hydrochloride.* LEWIS J. DOSHAY AND KATE CONSTABLE, New York, N. Y. J. A. M. A. *170*:37–41, May 2, 1959.

Chlorphenoxamine, or β-dimethylaminoethyl (*p*-chlor-α-methylbenzhydryl) ether hydrochloride, is a derivative of diphenhydramine hydrochloride. It has been in use for the treatment of Parkinson's disease in Germany and other European countries for several years. The authors have studied it for more than a year with a selected group of 25 patients in order to establish its effects, side reactions, and range of therapeutic dosage for various ages and types of patients with Parkinson's disease. Some patients tolerated as much as 600 mg./day without disturbing side reactions. Some patients fared best on only 25 mg. three times a day and others on 50 mg. once or twice daily, but the optimum dosage for most patients was 50 mg. three times a day. There is no evidence of increased tolerance, and patients continued to do well on the same amount of drug month after month. The study was extended to include 136 patients who had failed on other remedies. The new compound was used alone in 67 patients and combined with other drugs in 94. On the basis of clinical and objective laboratory evaluations, 53 per cent of the patients were found to have obtained positive benefits from chlorphenoxamine. Some of the results were truly

remarkable, as illustrated in case reports. Beneficial effects were about equally distributed among younger and older patients. Chlorphenoxamine has a muscle relaxant action in addition to an energizing and stimulating action. Patients are able to move faster and more freely and with greater strength and longer endurance. The drug has the least satisfactory reaction against tremor. Side reactions are mild and infrequent. It combines readily with other drugs. 10 references. 1 figure. 2 tables.—*Author's abstract.*

BOOK REVIEWS

Theory of Psychoanalytic Technique. KARL MENNINGER. New York. Basic Books, 1958. 206 pp. $4.75.

This book is made up of the author's seminar presentations on psychoanalytic technique in the Topeka Institute for Psychoanalysis. As he indicates in his preface, the book is about theory rather than about ways to treat analysands. It is concerned with the rationale of analytic practice, which is, in a sense, the whole body of psychoanalytic theory. However, for practical pedagogical purposes, the material is schematically simplified to highlight the generic central issues of analysis, avoiding the special types of problems in individual cases. The chapters are organized in a way that reflects the general progression of events in analysis. For example, after the introductory chapter, the author presents a chapter called "The Contract," in which he discusses the basis upon which the doctor-patient relationship is structured. The patient's tendency to repeat his life difficulties in the treatment relationship is considered in the next chapter, "The Regression." Subsequent chapters are "Transference and Countertransference," "Resistance," "Interpretation and other Intervention," and finally "The Termination of the Contract." The concepts in these chapters are dealt with in the traditional framework of psychoanalysis. Although technical language is freely employed, there is a remarkable absence of jargon and the style is clear and free-flowing. In a compact way, this book successfully ties together psychoanalytic principles with analytic therapy. For trainees in psychiatry, the book is invaluable.—*Norman Taub, M.D.*

Personality Patterns of Psychiatrists, a Study of Methods for Selecting Residents, vol. I. ROBERT R. HOLT AND LESTER LUBORSKY. New York. Basic Books, 1958. 386 pp. $7.50.

This book is a tediously long description of and discussion about a study on selection of residents at the Menninger School of Psychiatry. The book is strongly Menninger-centered. The idea was to find the most effective ways of predicting which candidates for residency would make good psychiatrists. Two general methods were employed. One was the technique used by psychologists in other occupational studies, essentially an actuarial device that attempts to correlate test findings with subsequent success in a field. The other involved clinical judgments by experienced psychiatrists who, on the basis of interviews, attempted to predict success; this was analogous to a clinical evaluation for prognosis. The second method was found to be more useful. In general, the authors believe that they were able to predict fairly well which applicants might be grossly incompetent or grossly competent, but they could not predict the intermediate degrees of competence too well. It is obvious that the research team and all the collaborators were diligent and meticulous in handling a mass of difficult data, but the meaning of the findings may be seriously questioned. An

all-important issue is determining what are valid criteria of a good resident or a good psychiatrist. Who is a good psychiatrist, and who is to say so? The authors used a composite of six criteria, some of which were subsequent certification, apparent success in practice, and estimates by fellow residents and by supervisors. Although 26 per cent of their rejected applicants did not go into any other psychiatric training, we cannot ignore the other rejected candidates or assume that they did not turn out well. Furthermore, a resident or psychiatrist regarded highly at the Menninger School might not be so regarded elsewhere, and one who gets along well there might not do so well in another training center. This problem is considered after a fashion; the authors describe the Menninger School as a representative training center since most residencies are now psychoanalytically oriented, but they overlook the important fact that training centers differ in atmosphere, rigidity, permissiveness, competitiveness, and other facets of the milieu that have to do with the adaptation and growth of residents. Also what is not adequately considered is that there are, legitimately, different emphases in psychiatry. For example, one who does quite well in administrative psychiatry may not develop so effectively in child psychiatry, and so on. Much of the brief material on the personality of trainees is devoted to a discussion of various expert opinions not related to the study. The personality differences between better and poorer residents comes down to the enumeration of certain traits much like the opinions given by experienced teachers. The authors state: "From a practical standpoint, it makes little difference that we do not know the qualities that are uniquely essential to psychiatry. If we can get some greater degree of certainty about which aspects of personality to look for when selecting potential psychiatrists, we shall be quite content, whether or not these same qualities might also be found in good prospective ministers or merchants." They remark further that "there is no one type of person who makes a good resident, nor is there any single type to be avoided." Although some of the discussion is rather interesting, the book offers what has been obvious to experienced psychiatric educators for some time.—*Norman Taub, M.D.*

Theory and Problems of Child Development. DAVID P. AUSUBEL. New York. Grune & Stratton, 1958. 654 pp. $11.75.

One of the chief values of this exhaustive book is that it deals with each of the factors and subfactors that are involved in child development from an historical, explanatory, and experimental point of view. The book contains a detailed description of personality development from birth to preadolescence, including parent-child relationships, emotional development, intellectual development, peer relationships, and various motor and perceptual functions. The section on personality development is directed to beginning students in child development. However, the sections on the regulation of development, research, and the nature of developmental processes will be of great interest to research workers and teachers. The author divides the various theories of child development into preformationist (basic properties and capacities present at birth), predeterministic (basic capacities present at birth but somewhat susceptible to environmental influence), and "tabula rasa" (environmental influence preeminent). After discussing these three categories he presents his theory of interactional approach, seemingly beyond the limits of any of the three categories. This genetic-social theory places great emphasis on the fatefulness for personality development of

inevitable roles taken by the child in relation to parents, siblings, and others in his cultural group. It has the advantage of simplicity, in that hypotheses are developed only from self-evident observation, making it quite easily grasped. A chapter on the regulation of development is one of the best available discussions of the genetic contribution to personality. Particularly provocative is the material on polygenic traits, those characteristics that result from the grouping of genes and are, therefore, more variable and susceptible to environmental influence than are the powerful, stable single gene effects. However, the need for defining and validating developmental laws remains; the author does not attempt to do this but rather states the problem and outlines the information now available. Fortunately, a number of contemporary longitudinal studies of child development may provide information in this area in the future by the use of normative observational techniques, psychotherapeutic work, and follow-up of children to whom discrete, severe traumatic events have occurred early in life. These studies, together with genetic pedigree material and neurophysiological research, show promise for resolving the present uncertainty. The book is a considerable achievement and should have an important place in pediatric, child psychology, and child research libraries.—*Sidney L. Werkman, M.D.*

The Gang—A Study in Adolescent Behavior. HERBERT BLOCH AND ARTHUR NIEDERHOFFER. New York. Philosophical Library, 1958. 229 pp. $6.00.

This is a simply written, fascinating study in adolescent behavior by a sociologist and a police lieutenant. The orientation is anthropological, sociological, and psychiatric. The authors base their theory of adolescent gang behavior on the striking correspondence between primitive puberty rites and modern adolescent gang behavior. Sociologists characterize adolescence as that period of life that comes between biological and sociological maturity. The adolescent strives for social maturity. The authors contend that puberty rites help normal adolescents gain adult status. When puberty rites fail, youth finds in the gang "informal and gang-approved mechanisms of symbolic adult status, as well as informal ritual devices." The book includes considerable interesting anthropological data to back the authors' theory, and there is a vivid descriptive study of a lower-class delinquent gang. Their theory leads the authors to the conclusion that formal and public recognition must be given to the social maturity of the younger generation and that adolescents ought to be given a voice and representation in government. They point out that the gang's attempt to gain power and status is a representation of the individual member's attempt "to prove he is a man." They feel that this fits in with Adler's psychology of the "masculine protest" and the "struggle for power." Though their views are impressive, it seems likely that an analysis of adolescent behavior in terms of Freudian psychology would be at least as tenable. A selected bibliography is appended.—*Irving L. Berman, M.D.*

Books Received for Review

Psychotherapy and Society. WLADIMIR G. ELIASBERG. New York. Philosophical Library, 1959. 223 pp. $6.00.

The Process of Aging in the Nervous System. JAMES E. BIRREN, et al. Springfield, Ill. Charles C Thomas, 1959. 224 pp. $7.00.

My Fight for Sanity. JUDITH KRUGER. Philadelphia. Chilton Co., 1959. 244 pp. $4.95.

The Psychiatric Nurse in the General Hospital. MARY A. TUDBURY. Springfield, Ill. Charles C Thomas, 1959. 81 pp. $3.50.

Neuropharmacology. Transactions of the Fourth Conference, Sept. 25–27, 1957. HAROLD A. ABRAMSON, editor. New York. Josiah Macy, Jr., Foundation, 1959. 285 pp. $5.00.

Psychopharmacology: Problems in Evaluation. J. O. COLE AND RALPH GERARD, editors. Washington, D. C. National Academy of Science-National Research Council, 1959. 662 pp.

Principles of Self-Damage. EDMUND BERGLER. New York. Philosophical Library, 1959. 469 pp. $6.00.

Now or Never—The Promise of the Middle Years. SMILEY BLANTON, WITH ARTHUR GORDON. Englewood Cliffs, N. J. Prentice-Hall, 1959. 273 pp. $4.95.

Thought and Action—A Physiological Approach. RICHARD K. OVERTON. New York. Random House, 1959. 116 pp. $0.95.

Insulin Treatment in Psychiatry. MAX RINKEL AND HAROLD E. HIMWICH, editors. New York. Philosophical Library, 1959. 386 pp. $5.00.

Research in Psychotherapy. Proceedings of a Conference, April 9–12, 1958. ELI A. RUBINSTEIN AND MORRIS B. PARLOFF, editors. Washington, D. C. American Psychological Association, 1959. 293 pp. $3.00.

Adolescent Rorschach Responses—Developmental Trends from Ten to Sixteen Years. LOUISE BATES AMES, RUTH W. METRAUX, AND RICHARD N. WALKER. New York. Paul B. Hoeber, 1959. 313 pp. $8.50.

A Selected Bibliography on the Technique of Psychoanalysis and Individual Psychotherapy: 1952–1957. ARTHUR BURTON. Agnews State Hospital, California Department of Mental Hygiene, 1959. 57 pp.

American Handbook of Psychiatry. SILVANO ARIETI, editor. New York. Basic Books, 1959. 2 volumes. 2098 pp. $25.00.

Against the Law. PETER WILDEBLOOD. New York. Julian Messner, 1959. 189 pp. $3.95.

Evaluation of Changes Associated with Psychiatric Treatment. M. REZNIKOFF AND L. C. TOOMEY. Springfield, Ill. Charles C Thomas, 1959. 132 pp. $4.50.

Released Mental Patients on Tranquilizing Drugs and the Public Health Nurse (Nursing Research Monograph No. 1). I. GELBER. New York. New York University Press, 1959. 139 pp. $3.00.

Annual Survey of Psychoanalysis. J. FROSCH AND N. ROSS, editors. New York. International Universities Press, 1959. 608 pp. $12.00.

Metamorphosis—On the Development of Affect, Perception, Attention and Memory. ERNEST G. SCHACHTEL. New York. Basic Books, 1959. 344 pp. $6.00.

Projective Psychology. L. E. ABT AND LEOPOLD BELLAK. New York. Grove Press, 1959. 485 pp. $2.95 paper, $5.00 cloth.

The Criminal Mind. PHILIP Q. ROCHE. New York. Grove Press, 1959. 299 pp. $1.95 paper.

My Unwelcome Guests. F. S. BALDI. Philadelphia. J. B. Lippincott, 1959. 222 pp. $3.95.

The Nature of Stress Disorder, Conference of Society for Psychosomatic Research, Royal College of Physicians, 1958. DESMOND O'NEILL, editor. Springfield, Ill. Charles C Thomas, 1959. 298 pp. $5.50.

Psychiatry and Neurology
NEWSLETTER

SUBCOMMITTEE ON HYPNOSIS: Dr. Harold Rosen (1101 North Calvert Street, Baltimore, Md.) has been chosen Chairman of the Subcommittee on the Medical Use of Hypnosis to implement the Journal of the American Medical Association's report on hypnosis (September 13, 1958). Dr. Zigmond Lebensohn and Dr. Louis J. West are also serving on the Committee. Dr. Rosen welcomes inquiries from any physician on problems in training in the use of hypnosis.

SUBCOMMITTEE ON AGING: A Subcommittee on Aging under Senator McNamara has been set up by the Senate Committee on Labor and Public Welfare to review comprehensively the problem of aging and the federal responsibility for programs dealing with this problem. Dr. Sidney Spector, Director of the Interstate Clearing House for Mental Health of the Council of State Governments, heads the staff.

INTERNATIONAL CONFERENCE ON DEPRESSION: Dr. Anthony Hordern, NIMH-Saint Elizabeths Hospital Research Staff, reports on a comprehensive international conference on depression as follows: 60 participants from 10 countries, most of them outstanding psychiatrists from all over the world, attended McGill University's Conference on Depression and Allied States held at Montreal on March 19 through 21, 1959. Organized by Professor D. Ewen Cameron of McGill University and financially supported by the Geigy Company of Basel, Switzerland, manufacturers of Tofranil (imipramine hydrochloride), the conference considered the history, nosology, phenomenology, psychodynamics, and psychotherapy of depressive states. The research methodology of drug trials and the treatment of depression by nondrug (i.e., physical) means was discussed, as was also imipramine hydrochloride in its pharmacological, physiological, and therapeutic aspects. Lehmann of Montreal considered the history of psychiatric concepts of depression, offering a new classification; Cleghorn of Montreal spoke of the psychosomatic accompaniments of latent or manifest depressive affect; Roth of Newcastle-on-Tyne, England, delineated the phenomenology of depressive states, including his "calamity neurosis" syndrome; and Hoch of New York described the psychodynamic and psychotherapeutic approaches to depression. Papers on the methodology of drug studies were given by Shepherd of London, England, and Lovett Doust of Toronto. Physical therapies of depression were outlined by Kalinowski of New York, and also by

Hoff of Vienna, who dwelled mainly on ECT and imipramine therapy. Sigg of New York described the chemistry of imipramine synthesized during research on basic substituted heterocyclic compounds, it is N-(dimethylanimopropyl)iminodibenzyl hydrochloride, and is similar to the phenothiazine promazine. The drug's antidepressant action was first reported by Kuhn of Switzerland in August, 1957; its physiological effect was described by Himwich of Galesburg, Fink of New York, and Hippius of West Berlin. Not an amine oxidase inhibitor, it alleviates depression probably through stimulation of central adrenergic mechanisms or by blocking central cholinergic activity. Many speakers discussed the role of imipramine in the treatment of depression, including Freyhan of Delaware, Deniker of Paris (who categorized the drug as "thymoleptic"), Kielholz of Basel, Malitz of New York, and Saucier, Berthiaume, Azima, and Cameron, all of Montreal. Most claimed good results with 150 to 250 mg. daily, administered in three or four oral doses.

The majority of speakers and discussants agreed that imipramine, although producing many side effects (few of which were serious), merited a two week therapeutic trial in retarded endogenous depressives before ECT was administered, providing that patients were not acutely suicidal. Other diagnostic categories, including involutional melancholia, responded less dramatically to imipramine. It was useful in chronic depressives and also as an adjunct to ECT; it was valuable, too, for patients fearful of or opposed to ECT. Whatever its therapeutic effect, it had been found that depressives who needed ECT after receiving imipramine usually required fewer treatments to cure them. But although ECT, when successful, radically cut short a depressive episode, imipramine therapy was often required during the whole time the depression would have lasted untreated. It was much safer than iproniazid, which most speakers had abandoned, having experienced hepatic toxicity and mania with the latter drug. In conclusion, Hoff stressed that imipramine, like ECT, necessitated a return to Kraepelinian descriptive diagnosis, and Lunn of Copenhagen went so far as to envisage a renaissance of diagnosis in psychiatry.

Closing the proceedings, Lunn, speaking for all participants, expressed gratitude to McGill University and the Geigy Company for the generous hospitality they had provided. Unsparing endeavor and careful planning had ensured that the conference was a success.

DIRECTORY OF TESTING LABORATORIES: The Council of Independent Laboratories, 4302 East-West Highway, Washington, D. C., has published a directory of leading independent testing laboratories that can be obtained free of charge.

Psychiatry and Neurology
NEWSLETTER

MENTAL RETARDATION: The Association for Research in Nervous and Mental Disease will hold its annual meeting December 11 through 12, 1959. The subject of the meeting will be mental retardation. The meeting will be held at the Hotel Roosevelt, New York, N. Y.

PSYCHIATRY FOR THE GENERAL PRACTITIONER: The American Psychiatric Association has been granted $27,000 for 1960 by the National Institute of Mental Health to evaluate and assist the development of postgraduate education in psychiatry for general practitioners. Local medical societies and other community agencies and facilities will be helped to foster this education in psychiatry, as distinguished from the formal training of medical schools and residency centers. Dr. Mathew Ross, Medical Director of the APA, will announce the appointment of a new staff psychiatrist in September, 1959, to head this new project. Correspondence can be addressed to Dr. Ross at 1700 18th Street, N. W., Washington, D. C.

BOARD CERTIFICATION IN CHILD PSYCHIATRY: The American Board of Psychiatry and Neurology, in February, 1959, was authorized to undertake subspecialty certification in child psychiatry. Six physicians, all diplomates in general psychiatry, have now been certified in the subspecialty and will be listed in the next edition of the Directory of Medical Specialists. The symbol Chi P will be used to indicate this certification.

APA, NATIONAL HEALTH COUNCIL MEMBER: The American Psychiatric Association has been re-established as a member of the National Health Council by the executive committee of the 38 year old National Health Council, along with the American Medical Association, the American College of Preventive Medicine, and the American Hospital Association. The council now comprises 66 national associations concerned with health improvement.

PSYCHODRAMA AND GROUP PSYCHOTHERAPY: The Academy of Psychodrama and Group Psychotherapy held a three weeks'

practicum-seminar from July 3 to July 23, 1959, at the Group Theatre of Psychodrama of the Moreno Institute, 259 Wolcott Avenue, Beacon, N. Y. Its purpose was to acquaint psychotherapists, psychologists, educators, sociologists, social workers, counselors, and industrial and administrative personnel with the philosophy and principles of group and action methods, to offer the facilities of the institute for actual practice in these methods, and to serve as a refresher course for those already working in these fields. Further information regarding this practicum-seminar as well as future programs, can be obtained by writing to the Moreno Institute.

MENTAL HEALTH MANPOWER SHORTAGE: This is discussed in the 350 page report Mental Health Manpower, by George Albee, professor of psychology at Western Reserve University (Basic Books, New York, N. Y.). The book impressively documents what is generally well known, namely, that the mental health field will suffer from shortages in trained manpower unless recruitment and training keep up with the upward population trend. The shortage of mental health manpower is related to the general shortage of professional people in the nation, and to the sociocultural values that steer two thirds of the brightest young people in the country into other fields of endeavor.

COURSE IN REHABILITATION CARE OF THE CHRONICALLY ILL PATIENT: A one week course in rehabilitation care of the chronically ill patient will be held November 16 through 20, 1959, under the auspices of the Department of Physical Medicine and Rehabilitation, New York Medical College-Metropolitan Hospital Center. The course will review the principles and techniques in medical care of the chronically ill, and is intended to meet the needs of the clinician, medical administrator, and public health physician. It will cover physiology and pathology of chronic diseases, nutrition and dental care, management of bedridden and incontinent patients, home care programing, community needs and resources, public health aspects, self-care activities, prosthetic devices, and psychological and social aspects. The tuition fee is $100.00. Traineeships for tuition, maintenance, and travel are available through funds provided by the U. S. Office of Vocational Rehabilitation. Applications for the course and traineeships can be obtained from Dr. Jerome S. Tobis, Chairman, Department of Physical Medicine and Rehabilitation, New York Medical College, 1 East 105th Street, New York 29, N. Y.

Psychiatry and Neurology
NEWSLETTER

NATIONAL SOCIETY FOR CLINICAL AND EXPERIMENTAL HYPNOSIS: Dr. Jacob H. Conn of 2325 Eutaw Place, Baltimore 17, Md., has been elected president of the National Society for Clinical and Experimental Hypnosis.

AMERICAN PSYCHOSOMATIC SOCIETY MEETING: The coming annual meeting of the program chairmen will meet in Montreal, Canada, March 26-27, 1960. Dr. Eric D. Wittkorver, 265 Nassau Road, Roosevelt, N. Y., would like to receive titles and abstracts of papers, in nine copies, no later than December 1, 1959.

AMERICAN PSYCHIATRIC ASSOCIATION REGIONAL CONFERENCE: This conference will take place at Louisiana State University on January 13-14, 1960, and will consider problems in communication.

ACADEMY OF PSYCHODRAMA AND GROUP PSYCHOTHERAPY: This organization is scheduling three academies, December 26, 1959, to January 8, 1960; July 2 to July 28, 1960; and August 1 to August 22, 1960, all under Jacob L. Moreno's direction. For particulars, write P. O. Box 311, Beacon, N. Y.

ASSOCIATION FOR PSYCHIATRIC TREATMENT OF OFFENDERS: This association, located at 444 Central Park West, Apt. 9-A, will hold its annual meeting on January 14, 1960, at 2 E. 63rd Street, New York City. Inquiries should be addressed to Richard Orr, Secretary.

POSTGRADUATE CENTER FOR PSYCHOTHERAPY: On October 17, 1959, at the Postgraduate Center for Psychotherapy one of a series of meetings on the integrative approach to problems of mental health will take place, with the family unit serving as the focus. All inquiries should be addressed to Dr. Max Markowitz, 218 E. 70th Street, New York 21, N. Y.

NASSAU NEUROPSYCHIATRIC SOCIETY: During the first trimester of 1960, this society will meet on the following dates: January 19, February 6, and March 15. All inquiries

should be addressed to Dr. Irving Bauer, 230 Hilton Avenue, Hempstead, L. I., N. Y.

MILWAUKEE NEUROPSYCHIATRIC SOCIETY: During the first trimester of 1960, this society will meet on the third Wednesday of January, February, and March. Inquiries should be addressed to Dr. Henry Veit, 5836 W. Lisbon Avenue, Milwaukee, Wis.

NEW JERSEY DISTRICT BRANCH OF THE AMERICAN PSYCHIATRIC ASSOCIATION AND THE NEW JERSEY NEUROPSYCHIATRIC ASSOCIATION: This joint group will meet the third Wednesday of each month throughout 1960, except for December. Inquiries should be addressed to Mrs. M. Claire Wagner, 149 Ellwood Street, Trenton, N. J.

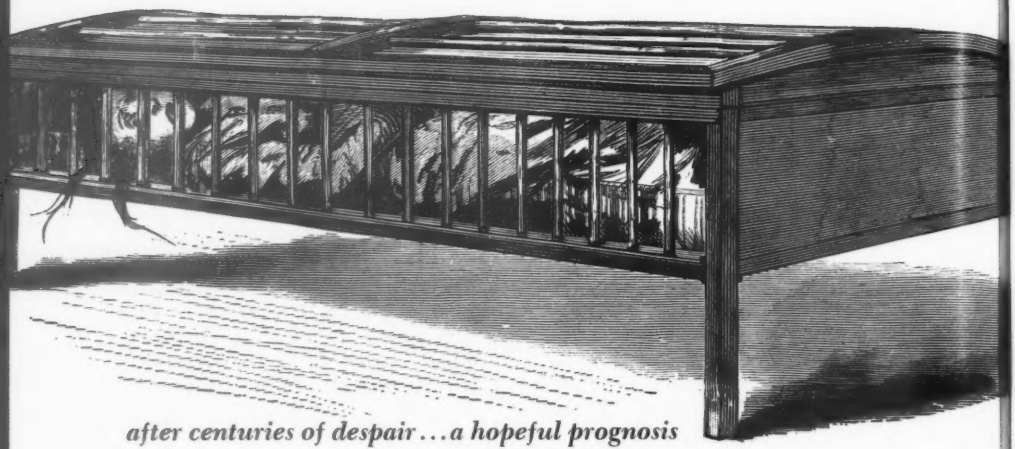
ANNUAL MEETING OF THE NATIONAL ASSOCIATION FOR MENTAL HEALTH: This meeting will be held in Philadelphia, at the Sheraton Hotel, November 17-20, 1959.

NEW NATIONAL ASSOCIATION OF MENTAL HEALTH EXECUTIVE DIRECTOR: The new executive director is Lawrence J. Linck of Chicago. A management counselor, he formerly directed the National Society for Crippled Children and Adults. He has served as consultant to several government and private agencies on problems of the handicapped.

FELLOWSHIPS HONOR DR. VESTERMARK: The A. P. A. will continue its program of Fellowship Awards in the current year, made possible by a grant from the Smith, Kline & French Foundation. Several types of awards are available, and applications from individual physicians, medical students, or institutions will be considered so long as they relate to the essential purpose of the program: to interest physicians and medical students in psychiatry and public mental hospitals and to advance levels of treatment and care in these institutions. Of special interest this year are the Seymour D. Vestermark Fellowships for medical students, named in honor of the late chief of the training branch of the National Institute for Mental Health. These fellowships are intended particularly to stimulate interest and knowledge in psychiatry among outstanding medical students. A brochure describing the program in detail and how to apply will be sent on request. Inquiries should be addressed to Chairman, Fellowship Committee, c/o A. P. A., 1700 18th Street N. W., Washington 9, D. C.

Journal of clinical and experimental Psychopathology & Quarterly Review of Psychiatry and Neurology

VOLUME TWENTY, NUMBER FOUR, OCTOBER-DECEMBER, 1959



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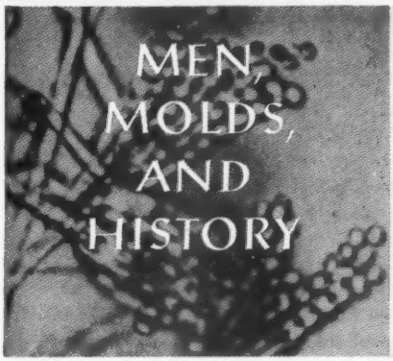

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1. *Ferrand, P. T.: Minnesota Med.* 41:853 (*Dec.*) *1958.*
2. *Edisen, C. B., and Samuels, A. S.: A.M.A. Arch. Neurol. & Psychiat.* 80:481 (*Oct.*) *1958.*

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